

HEALTH AND CONDITION
IN THE
ACTIVE AND THE SEDENTARY

DR. YORKE-DAVIES.

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BY

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LONDON:

SAMPSON LOW, MARSTON & COMPANY
LIMITED,

St. Dunstan's House,

FETTER LANE, FLEET STREET, E.C.

1894.

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PREFACE.

THERE are few people who go long, without suffering some slight derangement of health, not necessarily dependent upon disease, but due to temporary disturbance in the functions of those organs upon whose continued equilibrium health depends.

These variations from absolute health are more often due to faults of our own, such as errors in eating and drinking, than to causes beyond our control, and are therefore, as I shall endeavour to show in these pages, easy of prevention.

In civilized life a perfectly healthy individual is the exception, not the rule ; and in an experience extending over thirty years, I can only recall a very few indeed who have not suffered from illness, or known what it is to feel unwell. There may be every prospect of long life, and yet a person may not go a week without some departure from the healthy state. He or she may feel unusually fatigued without adequate cause ; may suffer from headache ; may be unable to sleep ; may be troubled with indigestion ; be annoyed and worried by trivial causes that would pass

unnoticed at other times ; may feel a disinclination for mental exertion, or may take a depressing view of ordinary mundane affairs. These deviations from health may not be incompatible with continuance of the daily duties, but they are with comfort, and with happiness to the individual, and to others.

Long life and healthy life are, in a great measure, in the hands of us all, and the deviations from health that we bring upon ourselves are, if remediable, more correctly so by dietetic means than by medicines. The former may be permanent cures, the latter are but palliatives.

Food of a wrong kind, or in too great quantity ; food badly cooked, or taken at wrong times, or hurriedly ; bad water, bad milk, bad wine ; food that does not nourish all the tissues, or that nourishes certain of them to excess ; insufficient food, and too much work ; and a luxurious mode of life and insufficient work, will cause departure from health, in the strongest.

We live by what we digest and assimilate, and, paradoxical as it may sound, we often die by what we do not assimilate,—that is, it remains in the system as waste, and clogs the human machine, preventing its proper working, thus inducing disease and premature death.

Perhaps our advanced civilization and artificial mode of existence may have something to do with many of the slight ailments of modern life ; they lead to errors of malnutrition, and hence to nervous exhaustion and want of tone, and are the almost invariable source of deviations from mental and bodily health.

Strange as it may appear, leaders of thought, intellectual men and women, great lawyers and

writers, and people of the highest literary attainments, are seldom introspective where their own health is concerned, and fall easy victims to the most ignorant and pretentious quack, and to advertised nostrums that convert a trivial ailment, due to causes easily remedied by diet and exercise, into a permanent source of ill-health or serious disease. Those who would not trust the quack with the loan of a sixpence, will entrust him or his nostrums with their lives, with the utmost confidence, and, as I and all other physicians well know, often with most disastrous results. Civilization, education, and the advanced scientific research of our time do not always teach common sense.

I trust I may be pardoned for placing this work before the public. The success of a previous one on the treatment of obesity by scientific dieting, which in three years has passed through six editions of several thousand copies, must be my excuse, as well as the modern growth in favour of the dietetic treatment of the many diseases due to errors in eating and drinking.

In conclusion, I must thank the reviewers for their invariably kind notices of my previous efforts, and commit this work, which I trust points out the truest way of attaining robust health and long life, to their impartial judgment, and to the patience of the reader.

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HEALTH AND CONDITION

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ACTIVE AND THE SEDENTARY.

“For life is not to live, but to be well.”—MARTIAL.

CHAPTER I.

WHAT IS HEALTH?

What is health?—Deviations from health—Happiness dependent on health—Perfect health, how to attain—Temperament and health—“*Mens sano in corpore sano*”—Muscular strength has no relation to health—The strength of a chain its weakest link—Insidious causes of disease—The aristocracy long lived, reason why.

THERE is no greater blessing than perfect health, and as long as this condition of perfect health lasts, there is no blessing that is so little appreciated by its possessor. Wealth, power, ambition, pleasure, without it are but Dead Sea fruit. Why should this be so? The reason is obvious: when a person is in absolute health there is nothing to direct his attention to the fact or to himself. It is a negative condition. Every organ works automatically, and the functions of the body are performed harmoniously and unnoticed, by organs often beyond the control of the individual himself. Indeed most of them are as active during sleep as in waking hours. It is only when, to use a common

phrase, there is a screw loose, and when a deviation from health takes place, either by the feeling of pain, or of incipient illness with its train of unpleasant symptoms, that we begin to realize the fact that life has lost some of its zest, that the different organs are not in touch with one another, and that there is something wrong somewhere.

Deviations from a state of health may be trivial, and soon rectified, or they may be serious; they may be bodily deviations, or they may be mental; but even if trivial they are not to be neglected, because the most trivial ailment may develop into the most fatal. The old proverb that says, "A stitch in time saves nine," is particularly applicable in this case, and we may instance it in this way. The loosening of a small screw may throw out of gear a mighty engine. We can imagine the possible consequences of this, supposing, for instance, it should occur to a vessel during a storm at sea. In its material sense, the human body is only a complicated piece of mechanism; it may, for comprehensive purposes, very well be compared to a steam-engine. Thus food is its coal, and fire; the nervous stimulus which generates power, steam; muscles, nerves, bones, are its iron, brass, and wood; indeed, there is scarcely an organ of the human body that has not, in a way, an analogous one in the steam-engine. In a way, it requires the same management. But does it get this? Let us see. I believe the care of a valuable engine is always entrusted to one who understands its mechanism thoroughly—the amount of coal and water it should consume, the amount of care and attention it requires, and so on. Any defect arising is immediately attended to. But with the human engine,

how far does this obtain? Its owner knows nothing about it. Not even the food that should keep it in health. As to any defect, he is of all the least competent to remedy it.

Though life, health, and happiness depend upon it, man treats himself, as far as the material part is concerned, as if he were something not worth attention, and health is only appreciated when it is lost.

Now, what does perfect health mean? In the adult, it means, first and foremost, that every organ is working harmoniously; that the mental and bodily functions are acting in concert; that sleep is natural and refreshing, and that on awaking the individual feels perfectly free from fatigue after ordinary exertion the previous day. The tongue is clean and the muscles are elastic, the pulse is steady, the nervous system quiet but vigorous, the stomach, after its long rest, is ready for food and enjoys it, and the day is begun with a healthy appetite, and its duties with zest.

To attain this state of perfect health, much of course depends upon habit and mode of life. Indeed, perfect health depends upon a combination of hundreds of trivial circumstances in the daily routine. For instance, exercise and rest must be to a certain extent properly adjusted to the diet of the individual. Food and its constituents must be regulated in quantity according to the requirements of the system, whether at work or repose. The mind must not be unduly taxed while the body is not sufficiently exercised; indeed, it is not going too far to say that the whole secret of perfect health, and as a corollary long life, depends in a great measure upon proper adjustment of food

and exercise. There are, however, numerous other factors which have to be considered in relation to continued health, and with regard to both physical and mental development. A man of middle height and corresponding weight, as a rule, is the strongest and best able to endure fatigue ; and the man of calm, unruffled nature has a better chance of long life than he who is restless and fretful in disposition. Lord Bacon attributed his healthy and long life to the fact that whenever he laid his head upon his pillow, he could set aside all the worries of the day and enjoy refreshing sleep ; and, indeed, it may be considered a very strong indication of good condition when any one can do this. No person can long continue to enjoy health whose sleep is broken by his inability to cast aside the feverish activity of the day, for what should be calm repose, on its completion. This time-honoured indication of one great requisite of robust health, has come down to us embalmed in the old quotation, "*Mens sano in corpore sano.*"

It may be consolatory to the weakly to be told that health has no relation to strength, and that a man may be to all appearance very strong and in the best of health, and still may have some fatal flaw in his heart that may prematurely destroy life ; but this, of course, is in the nature of an accident due to too great a strain that may have, from over-exertion, say, injured its valves, or suddenly weakened its vessels. It may not even have attracted his attention, or in any way have interfered with his general health or enjoyment, or been observed by others, and yet in a moment of excitement may rapidly develop fatal consequences. Indeed, we daily read and hear of cases of people

who are in the best of health, but who suddenly succumb during the exertion of dancing or riding, or of running to catch a train, or any other exercise that throws a sudden strain upon the particular part that is weak. In these cases life under certain conditions would have gone on to old age if it had been lived under circumstances of quietude and ease. Indeed, where there is a weak link in the chain, great care should be taken that no greater strain is put upon the whole chain than that particular weak link can bear. Many of us have this weak link, but few of us take the trouble to find out whether we have it or not. Some accidental circumstance brings out the fact. We wish to enter the army, or we wish to insure our lives, and we undergo a medical examination, and the truth comes out, and the knowledge thus gained may be the means of prolonging a life that would otherwise have soon come to an end. People go periodically to a dentist to have their teeth examined, but how much more important is it that they should occasionally ask their medical attendant to examine the different vital organs to see that they are working harmoniously. Physicians are often called upon to examine an organ only to find that it is too late to repair it. An attack of illness will call attention to the fact, though this may be due to an unsuspected cause, that is, disease in some organ that may previously have been supposed to be healthy. For instance, the onset of inflammation of the lungs may be due to mischief in the kidney in the form of Bright's disease, and this degeneration of structure may have been insidiously creeping on for months, or even years. Had this been detected, the lung disease might never have occurred,

as the individual would have taken such precautions, as clothing more warmly and avoiding exposure to cold, or other influences detrimental to continued health, that may have originated the attack.

The same applies to many other fatal diseases. The aristocracy and wealthy classes are longer-lived than others, simply because their health is more watched over, and they are not subjected to cold and other influences that tend to shorten life by inducing acute diseases.

When they die young, it is as a rule due to faults of their own in the way of too luxurious a life, coupled with excess.

CHAPTER II.

Mode of life influencing length of life—Length of life increased by habits of activity and abstinence—Luxury and excitement—Effects of civilization—Strides in medical science—Accidents and diseases formerly fatal, no longer so—Wearing out and rusting out—Food and work—Pure air essential—Sedentary life—Abernethy on exercise—Relaxation essential—Mental and bodily rest—Sudden deaths, cause of—Heart and nervous system out of tone—Influence of diet and exercise—Purgatives and quack remedies, injurious effects of.

LIFE is often terminated in a way that may be considered in the nature of an accident, the health in every other particular being perfect. Thus, from over-exertion, the coats of an artery may give way, and though robust health may continue, the artery may become thinner, until at last it suddenly bursts. The illustration of the chain still serves. A hundred links may be perfect, yet if one is weak, this one link renders the strength of the hundred vain. Many an athlete outstripping all competitors may have some flaw in the heart, the result possibly of over-exertion, long continued, perhaps, during his university career. Not that this in itself is any reason for avoiding athletic exercises, for as I pointed out in an article I wrote two or three years ago in the *Gentleman's Magazine*, the life-record of university oarsmen compared favourably

with any other class. Indeed, their length of life has been enhanced by the habits of activity and abstinence then inculcated. The mode of life commonly pursued in the present day is not one conducive to long existence; it is too luxurious and enervating, and conduces to those diseases that depend upon luxury and ease, such as congestion, gout, apoplexy, and conditions due to accumulation of waste in the system. On the other hand, it is also too exciting, and therefore liable to lead to diseases of the nervous system and heart, tending to such ailments as hysteria, alcoholism, insanity, and other indications of weakening of the great nerve centres. To live long we should live slowly.

Hurry, bustle, excitement, and the competition amongst civilized people is keener than it was in our grandfathers' days; were it not so, the advances made by scientific research would give us a greater possibility of long life than obtained in former times. If our ancestors in their days had had even our present knowledge of hygiene, in all probability their lives would have been much healthier and more secure, for science has certainly found many means of preventing diseases that shortened the average duration of life, such as small-pox, and to a certain extent also such diseases as cholera, diphtheria, and typhoid, unknown a hundred years ago. Surgery has made even greater strides. Accidents that would have been fatal to our grandfathers are no longer so, and many diseased conditions of organs that are now successfully operated upon, would in former times have been allowed to run their course to a fatal termination. Though so much has been done, a great deal

more remains to be done, and there are many diseases that are still the opprobrium of medical science that doubtless in the course of years will be rendered harmless, or at least within the reach of some remedial measures. Mode of life and habit have much to do with health. The sedentary man seldom enjoys life or robust health in the way the man of active habits does ; he does not wear out, he rusts out. This state of affairs may be partly due to hereditary disposition, partly to acquired habit, and often to an ill-adapted dietary. How often have I to point out this to those who come or write to me for dietetic advice ; for few take the trouble to learn that the sedentary require a different kind of food to the active. An engine that has to work at great speed requires coaling accordingly ; a race-horse is fed differently to a cart-horse ; an animal that has to be fattened is kept warm and at ease ; and differently fed to the one that is wanted for active work, and so on. A sportsman who is out in the pure air, and who exercises all the muscles of his body, enjoys a degree of health unknown to the sedentary city man, or the lawyer confined to his desk. It is difficult to make people of sedentary habits understand how much they can do for health, or persuade them to do so even when life depends upon it.* Such men often work hard in close rooms, and for longer hours than they should, eleven months out of the twelve, and seldom take

* A lady once drove in her carriage to see Abernethy, the great surgeon. She was told to walk more. She said she could not. Abernethy, unknown to her, ordered the carriage home, and to her horror she had to walk. She found the benefit of this, and being so far a wise woman, took the hint and more exercise, with, of course, renewed health.

a regular amount of daily exercise. They have no time for this, or rather will not make time for it; they take a month's holiday, and this is supposed to brace up the system, and, if one may so express it, oil and wind up the human clock for the dull monotony of the next eleven months. This holiday often does them more harm than their previous sedentary work, for they endeavour to get through more muscular fatigue during this time, than the muscular and nervous system is prepared to bear, both being below par, and thus instead of being refreshed by the holiday, they return to work more vitally exhausted than before. This would not be the case if a certain amount of daily exercise were made the rule of life; indeed, before a large amount of exertion is undertaken daily, for some time previously a modified course of simple training should be undergone.

Everyone is familiar with sudden deaths occurring at the commencement of the shooting and hunting-seasons to middle-aged people; this is due to the fact that for months previously they have been leading sedentary, enervating lives about town, eating and drinking luxuriously, and loading the system with waste in the shape of fat and gout poison, and other products of food taken in excess. The result being that the muscular and nervous systems, and more especially the heart, are out of condition and utterly unfit to undergo the strain of hard exercise on the moors or in the saddle. For some days this organ overgorged with blood labours on, until the individual being called upon to jump a hedge or walk up a hill, the extra strain entailed is too much for the poor burdened heart to bear, and it suddenly fails, an attack of faintness

supervenes, and in a moment all is over.* Two or three weeks of *proper* dieting, and exercise gradually increased, to have toned the muscles and relieved the system of a stone of useless fat, would have obviated such a danger. Instead of this, the obese or gouty individual takes purgatives or quack remedies, and still further lowers the vital powers before they are called upon for extra exertion, and thereby increases a danger already great enough.

* An attack of flatulency in an old person will often, by impeding the action of the heart, cause death. I remember as a lad of seventeen, thirty years ago or over, Henry Green, of Rolleston Hall, a celebrated Leicestershire master of hounds and sportsman, dying in my arms from this cause, in his scarlet coat and top-boots, just having returned from hunting.

CHAPTER III.

Food and exercise vital factors—Angina—Gout and obesity—Intellectual men ignorant of their physical requirements—The man who drinks beer thinks beer—Causes of premature decay—Brain food—Food and old age—Depression of spirits—Medicine *versus* Diet—The stomach and its troubles—Appetite—Diseases due to diet only curable by diet—Evils of self-medication—The body a machine—Human credulity.

HEALTH, as I pointed out before, depends in a great measure upon the proper adjustment of food and exercise. The sedentary man seldom takes the food adapted for sedentary work. Indeed he rarely understands or takes the trouble to learn the importance of this most vital factor to his health and well-being. How many hundreds of such unhappy, much-to-be-pitied individuals of both sexes have come to me burdened with all the waste in the form of fat, gout poison, bile, and other products that sedentary life and luxurious living will generate. I can recall a recent case in which a lady of high rank, but of the most inactive habits, was subject to repeated alarming attacks of Angina, which seemed to threaten fatal consequences, but in whose case massage, exercise, and a properly apportioned dietary, soon altered the whole aspect of affairs, and the Angina became a thing of the past.

To individuals of this type, loaded with gout poison, obese, and out of health and condition, a properly adjusted dietary has invariably been of vital advantage, especially where it is coupled with exercise or massage. A change of diet acts like magic in such people, and seems to burn up the waste of the system as a draught of air does the fuel in a furnace. Fat, gout poison, indigestion, and other ailments due to malnutrition, go, and fresh energy and life seem to take their place. Few people seem to understand that age and different kinds of work require different kinds of food, and that those who do bodily work require a dissimilar food to those who do brain work. It is really astonishing to me how many otherwise intellectual men seem to be ignorant of their physical requirements. They can well understand that a cart-horse has to be fed differently to a race-horse, and that an express train has to be coaled differently to a slow train; but it never strikes them that an intellectual man should be fed and nourished differently to a ploughman, or a sedentary city man, or literary man, to an athlete. Some one has said that the man who drinks beer thinks beer. Certainly the high-strung, nervous organization of the thinker requires in diet what would be out of place in the individual who earns his bread by the sweat of his brow. Many a man, and for the matter of that, woman too, breaks down in the prime of life simply because they are not fed up to their work. Not that they were starved, but that the food taken was not *brain* food. On the other hand, many take more food than their work demands, and are injured by repletion.*

* "It is a certain fact that some of the evils of old age are owing

Many clever people are faddists ; they go in for vegetarianism, or eat large quantities of farinaceous food and sweets, and therefore cultivate obesity instead of brain power.

Many a case of insanity is due to brain starving, and most are familiar with the fact that an attack of indigestion, when the food ceases for a few days to nourish the system, often leads to depression of spirits bordering on profound melancholia. I am not one of those who decry the value of medicine in the treatment of disease, but my experience teaches me that for those ailments that arise from improper food, and disobeying the laws that govern health, in the way of eating and drinking, medicine is of little or no avail. A man who suffers from indigestion, and doses himself with medicine to relieve it, is often doing his stomach a serious injustice. An attack of indigestion is simply a message from the stomach, that it objects to the quantity or quality of the food it is asked to receive. If this warning is not heeded, it proceeds to take more vigorous measures to make itself heard, and simply rejects its contents for a time. As the well-being of every organ in the body primarily depends upon the stomach digesting and assimilating food, it follows as a matter of course if this organ ceases to perform its functions properly, every other organ sympathizes, and general ill-health is the result. The sensible person will take the hint and give the stomach a few hours' rest, and then coax it with a little beef

to more food and liquid passing in than the eliminatory organs can get rid of. Hence arise indigestion, bowel troubles, gouty affections, some skin diseases, and general discomfort of feeling, all of which can be removed at once by lessening the diet."—DR. E. A. PARKES.

tea ; the result will soon be apparent, and health and appetite will quickly return.

Again, the man who attempts to remedy gout (a disease generally due to errors in diet, and indolence, in those who inherit a certain type of constitution) with drugs alone, is only adding fuel to the flame. The errors due to improper diet are only cured by proper diet. The individual overloaded with fat is simply suicidal if he attempts to get rid of it by purgatives and the thousand and one quack medicines advertised for this object. On these subjects as a dietician I can speak with some authority. I am no advocate for people attempting to diet or physic themselves ; even a physician, if he is wise, does not do this. He knows he is no judge of his own condition, and seeks counsel of those who more particularly apply themselves to treating the ailment he suffers from. In any deviation from perfect health, whatever may be its cause, it is always better to be guided by those who make the different diseases to which we are all subject their special study. The sensible person does not try to cut his own clothes or clean his own watch, but goes to those who are better able to do so. There is no more complicated piece of machinery than the human body, and still most people think themselves quite competent to remedy its twenty thousand ailments. Indeed, we know that there are plenty of advertised remedies that are warranted to cure them all, and plenty of people who believe they will do so. Alas ! for human credulity, this seems to flourish as much in these days of education as it did in the Middle Ages. It would be interesting, but painful reading, if the Registrar-General could tabulate each year

the number of deaths due to the result of people attempting to cure their own ailments by the aid of quack medicines. "They manage these things better in France." There the quack has to divulge what his nostrum is composed of, and therefore he does not flourish as he does in England.

CHAPTER IV.

Epochs in life—Climate—Early life—Environment—Density of population—Healthy localities—Mountaineers—Individual responsibility and control—The possible limits of life—Henry Jenkins—Life-long suicide—Euthanasia.

THERE are different epochs in life when different organs are liable to disease, and in early life the most common are the lungs. Indeed, in this climate of ours one-sixth of all born die of consumption in its different forms, and this in nine cases out of ten is due to the inherited taint, combined with those influences that depress the general health. Life may go on up to adolescence with every prospect of its long continuance, and then, from unhealthy surroundings, or insufficient food, or improper food during infancy, or during school-life, or impure air, or some other cause of unhealthy condition, the system may most insidiously develop the seeds of a disease that will soon terminate it. We are all familiar with the fact that density of the population is not conducive to early health.* Indeed, the death-rate of this period of existence may be

* In one street in Liverpool, half the infants born die during the first year of life. Sierra Leone may be called the White Man's Grave; but in every large town there is a Sierra Leone, a White Infant's Grave.

almost accurately gauged by the number of people who live in a given space. Those who are compelled to live in low-lying localities, are not so healthy as those who live in hilly countries or in mountainous districts. The teeming populations of our large towns never exhibit the same indications of robust health as those born in the country districts ; but even in respect to this, again, a great deal depends upon locality. We all know that the hardiest races of all are mountaineers, and the Scotch and the Swiss for this reason are about the hardiest and healthiest of beings.

I do not purpose in this chapter to enter into those conditions that influence life in the earlier periods of existence, because really they depend upon the care bestowed upon the individual by those who have charge of him in infancy, and not upon himself. What I propose to do is to touch on those factors that influence length of life within the control of the individual who has arrived at years of discretion, and that really influence length of life from day to day, the neglect of which brings sure penalties sooner or later. There is no reason that I know of why a human being under certain conditions should not live to the age of one hundred and fifty or two hundred years.* We all die prematurely from some accident or defect in one particular organ, either from our own fault or from inherited weaknesses ; indeed, even in extreme age, when possibly an old man dies of, say, softening of the brain, it is often found that his

* Henry Jenkins, a Yorkshireman, lived to the age of one hundred and sixty years. The registers of the Court of Chancery showed that he had given evidence one hundred and forty years before his death. "Old Parr" died in the reign of Charles II., at the age of one hundred and fifty-two years.

heart, lungs, kidneys, and liver may be perfectly healthy ; or, on the other hand, a man's faculties, his memory, etc., may be perfect to the day of his death, which may occur from some weakness or disease of the heart, lungs, or other vital part. It is a beneficent provision of nature that hides from us not only the day of dissolution, but also the means that are to bring it about. Even our indiscretions sometimes take many years to mature their consequences, and many a man goes to his rest in middle age, whose life up to then has been one long act of suicide. We have all heard of the coach-builder who built a coach so accurately adjusted in every detail of its construction, so exactly balanced part to part, that when at length it came to its end, as all things must, its dissolution took the form of absolute collapse, and it fell to dust. Nature, doubtless, when man was first created, so designed him ; but man, by his countless indiscretions through the ages, has thwarted the beneficent designs of Nature, and has brought about the deterioration of his constitution and impregnated his progeny with constitutional defects that involve all kinds of weaknesses and disorders. The sins of the fathers have been visited not on the third and fourth generation only, but on the many hundredth.

CHAPTER V.

Growth, maturity, and decay—The foundation of a strong constitution—Maternal care—School and school life—Scholastic life, some errors of—Vital power—Hereditary weaknesses—Physical and mental equilibrium—The blood, its influence on health—Hygienic rules not irksome—Health dependent on harmonious action of all organs—Cicero on Nature's work—A good constitution—Strong brain, strong body—Idiots—Early forcing injurious—Precocious development and early decay—Animal training—Premature age, its causes.

HUMAN life consists of a period of growth, maturity, and of decay, and its duration depends in a great measure upon the care that is taken during these three periods of life. I have before remarked that the period of infancy is in a great measure beyond the control of the individual himself, and the period of growth is often largely so, as during this period the bodily and mental powers are being developed at school, etc., and therefore are more under the surveillance of others.

Of course life would be intolerable if from the time a being begins to think at all he were always thinking of how best to conduce to its continuation and end.* Indeed, it is to a certain extent fortu-

* This was evidently Sterne's opinion, for he says, "People who are always taking care of their health are like misers, who are hoarding a treasure which they have never spirit enough to enjoy."

nate that the foundations of a strong constitution are laid during that period of life that is not exactly under control of the individual himself, that is, if those in whose charge he is placed do their duty in these matters. Whether the mothers of the present day do so in this respect as conscientiously as those of a hundred years ago or not is a difficult matter to decide ; it is to be feared they do not ; but certainly in the early period of existence our well-being depends upon those who have the care of us ; and, as a rule, the foundation of a strong constitution is laid while the body is attaining its growth and development.

The influence of early care and attention is illustrated well in the vegetable kingdom. If a good seed is planted in good soil, properly cared for, watered, manured, and guarded from cold, it grows into a strong and healthy plant, and will run its course and flourish, while others less cared for will perish before they come to maturity. Many a boy is sent to a school where he is bodily half-starved and mentally overworked, where his food is either improperly cooked or is insufficient, and where the surroundings, in the way of fresh air, pure water, and proper drainage, are everything but what they should be. What is the result ? His growth is stunted, his blood is poisoned, his digestive organs are injured, and his brain is forced in one way and starved in another. If he survives it all, he begins life with an impaired constitution and with his capacity for useful work sapped at its foundation. The same applies to the girl under like conditions ; the monotonous life in school, and the still more monotonous walk out that we are all so familiar with, two-and-two, looking neither to

the right nor to the left, but stolidly in front, as inanimate as dolls, and as pasty as muffins. During this time, alas ! too often in the female, are sown the seeds that develop later on in hysteria and ailments of disordered mental and bodily nutrition.

There is but little doubt that every human being is born with the same amount of vital power—the spark of life, if one may so call it—but, unfortunately, so far as the constitution is concerned, many inherit some hereditary taint, and therefore are handicapped from birth with the seeds of some disease or other, which may be developed prematurely, and may destroy the mechanism before its natural ending in old age. There is “a rift in the lute ;” it may be the inherited taint of insanity, or of gout, or of tubercular disease ; but whatever it is, it is a bar to long-continued health. Nevertheless, much may be done by proper management, even in such cases as the above, where early neglect on the part of parents and others has impaired the constitution and the physical and mental equilibrium. It is worth more than untold wealth to enjoy good health, as life without it is one continued burden and a wearisome pilgrimage from the cradle to the grave.*

Proper food, fresh air, warmth, cleanliness, and all those factors that improve the blood will do much to repair the prematurely broken down constitution. Of course, to retain good health involves a little attention on the part of the individual's self, and if a benefit is to be attained, and life prolonged and made more enjoyable, it is worth a little effort on the part of the one most interested

* “A hale cobbler is a better man than a sick king.”—BICKER-STAFF.

in its attainment. A man need not make a martyr of himself for this purpose. Life would not be worth living if it involved constantly considering what we ought to be doing to prolong it. We all know that to acquire any particular accomplishment a little practice is at least necessary at first, but it soon becomes easy to follow. There is a certain amount of trouble necessary to acquire the ability to play an instrument, such as the piano, but after a time the fingers get used to the movement, and they work almost automatically and irrespective of the will. Indeed, if action had to be thought out, it could never be done with the rapidity it is. I simply mention this to illustrate that what can be done with regard to an accomplishment, may be done in the same way with regard to those factors which conduce to continued health, life, and happiness.

The length of life of the individual depends in a great measure upon the absolute health of every organ in the body, so that each shall last its allotted time, and end in the common course of nature. The natural termination of existence is that which Cicero describes when he says, "With intellect unimpaired, and the other senses uninjured, the same nature which put together several parts of the machine, takes her own work to pieces. As the person who has built a ship or a house, likewise takes it down with the greatest ease ; so the same nature which glued together the human machine, takes it asunder most skilfully."

There is no phrase more common, yet no one more indefinite and complicated than the one expressed in the three words—a good constitution. In a sound constitution there is a healthy

development and maintenance of all the tissues in the body, and, as previously indicated, no inherited taint of disease, such as consumption, cancer, gout, tubercular disease, etc. If I were asked the most important factor to the attainment of a sound and strong constitution, I should say, first and foremost, a well-developed brain and nervous system. This is the mainspring of vigorous life, and the primary source of a strong constitution. To see this illustrated we must go to the lowest type of humanity—the idiot. An idiot is seldom robust in body, nor do his bodily functions work harmoniously. The physical and mental attributes are equally deficient.

An idiot is seldom seen in good condition. He is, as a rule, flabbily fat, and unhealthy looking, and either phlegmatic, or subject to sudden gusts of passion and excitement. He is backward in every way, and, the mental stimulus being defective, even in physical exercise he is far behind his fellows. This illustrates the fact that health and condition and sound constitution depend in the first place upon a sound brain, and to a great extent upon its proper training in the earlier years of life. "Within certain limits man is subject to the same laws that every other animal, or even the vegetable, is. Nature has assigned to him periods during which he should attain to physical and mental maturity, and any attempt by early forcing to curtail either period is sure to lead to disastrous results." A boy or girl may be developed under a system of steady cramming, and as far as competitive examinations are concerned, they will become accomplished, at all events superficially, long before the ripe age is attained, but it is an accepted

axiom that the earlier the development the earlier the decay. The career of the race-horse illustrates this in a very pronounced manner, and shows what early forcing will do. It is found that horses trained at the age of two years, before they are fully developed, as far as competitive races are concerned, seldom see a career of matured usefulness, in fact the majority break down even before they reach the third year. Those animals that are allowed to mature their physical strength until their muscular and nervous systems have attained perfection, will last for many years. They, in fact, improve at an age when the former ones are utterly broken down. It follows that therefore one of the most important things conducing to a sound constitution, is an avoidance of excess of physical labour and exertion before the mental and bodily functions have reached maturity, and the keeping in proper subjection the moral and physical appetite until the various organs of the body reach their full development and perfection.

Any violation of these rules must undoubtedly lead to premature age and artificial decay. The reproductive power lessening as life goes on, it is difficult to remedy the harm that the system may have sustained in earlier years. A twig or tree must be bent while it is young. The foundations of a sound constitution, and good bodily and mental health, are more particularly laid in the early years of life. Deviations from soundness may be remedied then, they cannot be later on, with certain rare exceptions.

CHAPTER VI.

Nutrition and life—Primitive man—The admixture of races—The sins of the fathers—Inherited constitutions—The Nervous—Gouty—Scrofulous—Bilious—Lymphatic—Their characteristics—Their influence on length of life—Exigencies of modern society—Blended temperaments—Mal-nutrition and diet—Idiosyncrasies.

IN a sound constitution the process of growth, nutrition, and decay, goes on with undeviating equanimity, and a high state of health is maintained with unaffected regularity for many years, that is, assuming the individual himself takes reasonable care, that he does not transgress the laws of nature, and no accident occurs to disturb the even and regular action of each organ of the body. Possibly in the earlier ages of the world there may have been individuals blessed with an absolutely sound constitution, but as time has passed on, the human family by the mixing of races, the influence of climate and the natural moral weaknesses of humanity, have developed all kinds of deviations from this state, and we now speak of inherited weakness of constitutions, such as the Nervous, the Gouty, the Scrofulous (now better known as the Tubercular), the Bilious, or the

Lymphatic, and many others less pronounced, that need not be described in detail.

We all seem to inherit one or other or a combination of these. Indeed, we are no more born with the same constitution than we are born of the same size and configuration. It may be asked, what are the characteristics of the different types of constitution most commonly met with, outside the pale of the perfect, though not incompatible with length of life?

First of all let us describe the Nervous. In this class, as a rule, the frame is small, the movements are restless, quick, and varying, the head is large and well developed, and the nervous system highly organized, and equal to long-continued exertion. Persons of the nervous temperament are energetic, acute in perception, and mentally impressionable and lively. The features are stamped with thought, intensity of feeling, and intellectuality. These are the natures that rule others and control the destinies of nations, though curiously enough they are seldom able to rule themselves, and are easily elated or depressed, and, when out of health, impatient, nervous, irritable, and difficult to manage.

The Bilious are characterized by darkness of complexion and dark or black hair, largely developed frame, and gloomy temperament; they are not pleasant people to live with, as they usually look at the depressing side of life, and are given to be melancholy and introspective; but on the other hand, it is not uncommon to find those of this temperament active, small, and wiry, even up to old age—as any one may have observed among their own surroundings. They are usually thin in

early life, but grow stout towards middle age. Consumption, when it attacks those of this constitution, runs a rapid course, as it does in the black races. This type is often blended with the Lymphatic. Indeed, as before remarked, there is no absolutely pure type of any inherited constitution.

The continued health of the Bilious is a matter of diet and exercise; and the constant purgation that such individuals usually indulge in is most injurious, though they bear it well for a time. The functions of the liver are sluggish, and therefore a stimulating diet is needed in such people, and one that does not overwork the liver. Those of this temperament should indulge but moderately in sweets and sweet wines and alcoholic liquors, such as beer and stout and sugared aërated drinks.

The individuals that inherit the Gouty taint, or diathesis, are strong and muscular. The frame is bony and large, the teeth well shaped and undecayed, even to advanced life, the blood-vessels are full, the heart strong, and the muscular tissue well developed. Their nervous system is not easily disarranged, their appetites are large, and their digestive powers good. Unless absolutely victims to gout, through inheriting the uric acid diathesis, they enjoy excellent health until about sixty, or until the critical time in life comes on; this occurs between the age of fifty or sixty.* Individuals of this type bear starving well, and recover quickly from acute attacks of illness; but, as a class, are apt suddenly to break up in advanced life and are

* An old authority calls it "a man's moulting time." "At this time," says Dr. Waterhouse, "a man first experiences a reluctance to stoop, prefers a carriage to riding, and perceives that each change in the weather affects him."

martyrs to gout, when it begins to manifest itself in acute attacks.

Of course immunity from gout in this class entirely depends upon the mode of life, and this, as a rule, is a wrong one in their case ; they go on sowing the wind for years, and they reap the whirlwind with a vengeance when the harvest ripens. In the gouty the system becomes periodically choked with refuse that should be eliminated by the kidneys and other excretory organs, the blood becomes saturated with uric acid, and then a sudden twinge of pain in some joint heralds an explosion, and the inflammatory action set up, clears the system for some time.* But of this and of the mode of preventing recurring gouty attacks, more later on ; suffice it to say that proper diet, and not drugs and quack remedies, is the best and real preventive of recurring attacks, that otherwise gather strength, as the power to combat them loses it.

The Tubercular, more commonly known as the *Scrofulous*, is an unfortunate constitution to inherit. It indicates low vitality and an unhealthy development of the vital organs from birth ; it is characterized by retrograde nutrition, and like the fruit or flower that comes to maturity early, it decays early. In such persons the digestive and circulatory powers are weak, the stamina of the constitution is badly developed, and the power of resisting disease feeble. The glands that purify the blood in those of the scrofulous diathesis become diseased early in life, and lead to great disfigurement.

* An illustration of this may be instanced in Nature in the thunderstorm, when the atmosphere, becoming supercharged with electricity, leads to an explosion.

The glandular system has so much to do with eliminating from the system the refuse of food and other waste products, that their continued health is of the greatest importance, for this and other all-important reasons.

In the Scrofulous the joints are large and liable to premature decay, and the teeth perish very early. In the female the features are very beautiful, the eyes are blue and large, and the hair flaxen, silky, and long; the intellect is bright, and the features animated and intelligent. The young of this constitution are clever and intelligent beyond their years; but, alas! the chest is flat, the muscles are soft and deficient in tone, and the seeds of early decay are already planted, and only want bad, scanty, and unsuitable food, insufficient clothing, and the impure air of close rooms and large towns to develop the harvest that is reaped by Death. The only means to attain old age in such as inherit this constitution, is to keep up and improve the nutrition of the body and the general health in every possible way during early life and adolescence. If parents could realize how much happiness or misery they are the guardians of in the bringing up of their progeny, the dictates of affection might induce them to take some trouble in learning the proper means to ensure—as far as human means can—continued health in their offspring. In those who are fortunate enough to be born wealthy much may be done in this way by care and by proper measures and generous diet, consisting more especially of meat and fat; and thus a good constitution may be built up; but this should be done as soon, or even before, indications of a scrofulous habit become apparent

—in fact, before even the seeds of tubercle are planted.

Unfortunately the exigencies of modern society are very exacting, and the mother who wishes to obey the dictates of fashion delegates to others duties she should perform herself. Hence children are dry nursed and fed upon improper food at the very time when a strong or weak constitution is being established, instead of being supplied with the sustenance Nature has provided. The Mahomedan religion is very strict on this point, and rightly so.

The fact is, beings born inheritors of this constitution, imperatively demand that they should be as carefully guarded in infancy as a hot-house plant, for if this is not done the tendency in such constitutions is to develop disease in the glands of the bowels, abscesses about the neck (King's Evil), diseases about the joints, especially the hips, and more important still of the brain, in the form of tubercular meningitis. In the humbler walks of life the inheritors of this constitution are killed early by tubercular disease or disease of the brain, often brought on by "over pressure," combined with insufficient food and want of care at school; by disease of the bowels—mesenteric disease; and of the lungs—consumption. Continued existence in the Scrofulous does not illustrate the survival of the fittest, but rather of the most fortunate. The fairest flowers are the first to fade; so it seems that Nature has ordained that in this particular type of being its surpassing beauty should be ephemeral, and its delicate bloom as evanescent, as that of the lily or the rose.

The Lymphatic type of constitution is instanced

in those listless, large, heavy, phlegmatic beings, whom nothing moves, nothing pleases, nothing excites; they lead a vegetable kind of life; all the functions of the body are performed sluggishly, and even the mental processes are slow in their operation. Those that inherit this diathesis are always ailing; they are indolent, and therefore subject to all those diseases, real or imaginary, that result from want of exercise, lack of nervous and muscular tone, and proper circulation of the blood. They become, as life goes on, fat and flabby, for they generally indulge in a diet that adds to their discomfort, and in no constitution is a proper diet and active mode of life so important.

Unfortunately the Lymphatic are loth to carry out any system for their benefit. A stimulating form of food suits these individuals best, but they lack the energy even to carry out for any length of time any system that would undoubtedly, in their case, be peculiarly beneficial. I find that those of this class that come to me for the reduction of fat (the Lymphatic are usually corpulent early in life) improve very much when fat-forming food is cut out of the dietary, and the foods that increase nervous power and energy substituted; they lose fat rapidly, and gain considerably in health and condition. After all they are an unsatisfactory class to advise; most things that other people would do with pleasure is to them, or appears to be, great hardship.

The foregoing are the usual types of constitution met with among English-speaking races, modified to a certain extent it may be by climate and environment, but not unfrequently two or more of the types may be blended together, especially

where the parents are dissimilar in colour or race.

It may not be out of place here to remark that success in treating the diseases of mal-nutrition, in those who inherit these different types of constitution, by dietetic means—the only means that are really of permanent service—depends upon a due appreciation of the different idiosyncrasies of each particular individual, in early and adult life, and their constitutional requirements both in health and disease.

CHAPTER VII.

Medicine in constitutional defects—Constitution influenced by age, habit, accident, and disease—Moral control—The inherited vein—Legacy of disease—The foundation of health—The strong and the weak—Parental duty—The vigour of youth—Dietetics in school—The expert in dietetics—Growth and food—Emulation, effects of—Girls' dress—Tight-lacing, diseases from—Preservation of female beauty—Meretricious aids to beauty—Excitement and impure air, evils of—Charlatans and their ways—Cosmetics.

MEDICINE is seldom a remedy for ailments due to constitutional defects, or want of care in early life, and if not absolutely injurious, its action is, as a rule, ephemeral, whereas a proper system of diet, fresh air, and other rules that lead to sound health, carefully carried out, *are* of permanent benefit, so far as benefit can be attained; and this, in the cases indicated, is further than most people think. This is my experience as a dietitian, and I speak from very large experience in the matter on both systems. At the same time, it must be palpable to ordinary intelligence that patience and perseverance are necessary to attain this result; but when the end is attained, it is worth all the trouble and attention bestowed.

Age, accident, habit, and disease, may modify the constitution and lead to structural changes and

even to premature decay, while, on the other hand, much may be done, as can be shown, to build up a new, more vigorous, and stronger one by improving the blood and strengthening the nervous system with those foods that form healthy tissue. Naturally this requires much time and patience.

We daily see what religious enthusiasm and moral control or indulgence may do in altering the temperament for better or for worse, but so few are amenable to long-continued restraint that the inherited tendency, after all, as a rule, runs its course from the cradle to the grave. These imperfections of constitution are transmitted from parent to child, from generation to generation. They are a legacy that posterity inherits from the weaknesses of its forefathers.

A sound constitution not only means that the bodily part should be healthy, but the mental part as well, and continued healthy life really depends upon two conditions for its attainment, "one being the equable and unruffled operation of the mental processes that influence the material part, and the other the unchangingly healthy condition of the tissues of the body that minister to the operations of life, and act as a medium between the visible and the invisible." Assuming that the individual is not fortunate enough to be born with a sound constitution, it is the duty of those to whom he owes this defect to endeavour to remedy the imperfection, and a great deal may be done in this way up to adult age, and even beyond it.

It is true our early years are in the care of others, and if parents did their duty to their offspring they would endeavour, by every means in

their power, to improve the health of those who are born with the taint of inherited disease. It does not seem just that Nature should bring into the world beings that, from no fault of their own, should be cursed with the sins of their ancestors ; and in the case of the inherited constitution this is so. Indeed, every effort is made to thwart the Legislature, by those who pretend to be actuated by what they are pleased to call moral motives, in guarding the unborn against the evil consequences of the vices, or the weaknesses of their progenitors. The mother who understands her duty and does it, would see that her child, in its helpless years, had proper nourishment and sustenance, proper clothing, and plenty of fresh air. In this way, an infant born with a weakly constitution might, when grown up to man's estate, be healthy and strong, and the seeds of disease, that would otherwise develop, would either remain dormant or be eradicated from the system. Healthy tissue would take the place of diseased tissue, and healthy blood the place of vitiated blood, and the possession of healthy blood in the earlier years of life, depends upon proper food, fresh air, light, and warmth.

The foundation of a sound constitution is more particularly laid, in both sexes, during the period of youth and adolescence ; and during this time the greatest care should be taken to supply those factors that conduce to mental and bodily health, the principal of these being good and wholesome food, fresh air, and exercise. Many a boy's and girl's constitution has been effectually ruined at school, during the time the mind is being trained for the occupation in life. In this case the mischief

has been due to insufficient and badly-cooked food, close rooms, bad drains, too much mental work, and the worry it entails, and insufficient sleep and outdoor exercise. I have, in a large experience of disease, seen many a man and woman break down utterly in middle age from causes directly traceable to their schoolday existence. There is no greater duty imposed upon a parent, I believe, than that of seeing, when he entrusts his offspring to the tender mercies of a schoolmaster, whether it be in a public or private school, that all the details necessary for continued and robust health should be part of the school curriculum. The strong may be unharmed by the rough-and-tumble life in a large school, indeed it may be absolutely beneficial to them, but the weaklings go to the wall, or carry through life the burden of an impaired and weakened organization.*

The parent when he sends his son or daughter to school* should choose one where physical exercise is as much a part of the discipline as mental work, and where the food is plentiful and good, and the sanitary arrangements are perfect. The Legislature should make it compulsory that every school, public and private, should be periodically inspected and certified to have no sanitary defects. If parents refused to send their children to schools that did not do this, many a home would be less desolate and many a young life saved.

In youth, the organs that carry off the surplus of food that the system does not utilize or require,

* Cases have come under my observation as a physician, of men who have died even fifteen or twenty years after the Crimean campaign was over, from diseases contracted in the trenches before Sevastapol.

work with more vigour than they do in middle life or old age, and therefore excess of food is not harmful, nor does it become stored as gout or fat, indeed more harm is done by starving at this period than by excess. Food during youth fulfils a treble purpose: it increases growth, it maintains existing tissue, and generates heat. Whereas, when the body has arrived at maturity, food is only necessary to maintain heat and replace the waste of tissue, and if more is used than is necessary for this purpose, it becomes stored in the economy, and much of the surplus is converted into fat, or into gout poison, or other products equally injurious to health and comfort. I have always held the opinion that dietetics should be taught as a part of a boy's curriculum. I hope the reader will pardon a short digression here, for really a knowledge of the use of food, and a few other factors that conduce to health and comfort, and even length of life, would be of vast service to them as life advances. A knowledge of the dead languages may be useful to some, and may increase mental power, but a knowledge of the uses of food in the living body must be useful *to all*. The expert in dietetics knows that there are foods that increase mental power, as well as foods that increase muscular power, and on the proper apportionment of these, in the different epochs of life, mental and bodily health depends. This is the knowledge I should like to see taught during school-life.

Diet in the hands of an expert in the treatment of disease, and especially in those conditions due to mal-nutrition, is more powerful than drugs, and I am often amused by people who come to me to be dieted for some condition, due to improper

food and faulty mode of life, such as gout and obesity, expressing the utmost surprise that "mere diet," as they say, can do so much. In matters of vital interest, as I have before remarked somewhere, the eyes of some of us are only opened just before they have to be closed again for ever.

But to return. There is no doubt that in the present day a great deal more care is taken of the growing youth, especially in the large public schools, than obtained in the days of our fathers; but there is still room for improvement. A boy should be well fed and well clothed, but he should not be coddled. A certain amount of hardship is beneficial, especially in those who can stand it well, and a schoolmaster should undoubtedly determine between those who can, and those who cannot. I have seen boys of inferior physique put to compete in races and school games with the strong and healthy, with fatal results. Of course a boy himself is no judge of what he can do, and therefore permanent mischief may be done to the constitution even if serious consequences do not occur there and then. A high-spirited youth will endeavour to compete in athletic games with those who are physically his superiors, and often with disastrous after-results. The same obtains in the case of girls. To them physical exercise is as important as to the boy, and during the period of growth the same attention should be paid to this.

A girl's dress should not impede the free movement or the harmonious working of the organs during the period they are acquiring their proper development. The pernicious habit of tight-lacing is accountable for much disease, suffering, and death, in early life, in those who give way to this

strange and unnatural outcome of vanity. The organs most essential to the well-being of the body in its physical and mental development are compressed out of shape, and, as a consequence, there is no room for the lungs and the liver, the stomach and the heart, to properly perform their functions ; hence the blood stagnates in the veins, and remaining unpurified, lays the foundations of many serious and even fatal diseases later on. Among these may be enumerated hysteria, consumption, constipation, varicose veins, piles, derangements of the liver and heart, with many other ailments too numerous to mention, the very names of which would create loathing and disgust in the breasts of those who are supposed to admire a deformity that entails the destruction of all that makes life to a woman worth living for.

The parent who allows her daughter to compress her waist at the expense of health, and even life, for the sake of vanity and admiration, is little better than a murderess. It would be bad enough for women to do this if the opposite sex admired a "wasp waist ;" but they do not. I think I have had as much experience of the world and human nature, among both the highest and the more lowly, as most men, and I can truly say that I have never heard any one whose opinion was worth hearing express anything but disgust at a pinched-in, and therefore pale and pasty-looking, tight-laced girl. Heaven help the man who marries such a being, if any man is foolish enough to do so.

The development and preservation of female beauty entirely depend upon proper food and exercise, and the free play and harmonious action of those important organs that keep the system in

health. Robust health is the best cosmetic, and, indeed, the only one necessary to preserve beauty to middle, and even to old age. The woman who screws her waist in, does it at the expense of her freshness, her complexion, and her good looks, and she soon has to fly to the meretricious aid of the charlatan and the quack, for the artificial and evanescent bloom of complexion that is the inheritance of health alone. And to these she flies in vain.

I presume there are few, if any, especially among those blessed by nature with beauty and an elegant figure, who are not anxious to preserve these as long as they can, and still they go every way to destroy them—tight-lacing, improper food, and indolent habits, that bring about obesity, and with it the ruin of the most perfect figure. When the restraint of school-life is at an end, and before the female figure is properly developed, or the stamina of the constitution established, the usages of society demand that the neophyte should undergo, night after night, excitement and late hours, in crowded and often badly ventilated rooms reeking with vitiated air. The result is soon apparent in anæmia (poorness of blood) and an exhausted nervous system, and all the evils that follow in their train. How many beautiful women does the physician not have occasion to advise, whose personal appearance has been ruined by injudicious diet and the failings just enumerated; who, when their mode of life has been altered, and their diet has, for a time, been properly arranged and supervised (for, indeed, a clear complexion and a good figure are almost entirely a matter of diet), have lost the accumulated waste in the system in the

form of fat, and other indications of unhealthy condition, and regained the beauty, the figure, and elasticity of youth, and, indeed, many of its other characteristics.

Unfortunately there are always charlatans ready to trade upon the vanity of the fairer portion of creation, and the Madame Rachael of thirty years ago has been succeeded by others equally unblushing and unprincipled, whose washes and poisonous lotions and cosmetics only increase the mischief they are advertised to remedy. A muddy complexion is not cured by being enamelled, and thinness of blood and want of healthy colour are only made more apparent by cosmetics in the form of carmine, bismuth, and other colouring matters that are supposed to give an appearance of health: I would not touch so strongly upon this point did I not so frequently see the evils connected with it.

CHAPTER VIII.

How to live long—A short life and a merry one—Pleasure and pain—Detrimental habits—The gourmand—Alcohol and its dangers—Its influence on life—Duration of life in the temperate and intemperate, table of—Alcohol in early life, evils of—Excess in alcohol, remote effects of.

ASSUMING the factors previously indicated to have been carried out, the constitution becomes established, and if a good constitution is to be maintained to middle and old age, it depends entirely on how the individual uses it as years go on.

There is no excuse for a person who is anxious to live to old age, and who knows that certain paths lead there, and that certain paths lead to disease and early decay, taking the latter. "A short life and a merry one" sounds very well in theory, but the votary of pleasure, who burns the candle at both ends, would often recoil with horror, if he could realize the sickness, pain, and weariness that will be his lot, when health is gone and the long and tedious pilgrimage that ends in death is begun. The transit from pleasure to oblivion may be occasionally brief, but oftener it is lingering, and the diseases that follow in the wake of indulgence, when carried to excess, are among the most painful

of all. Nature makes every effort to sustain life in spite of heart disease, dropsy, gout, obesity, and other conditions due to indolence, and immoderate indulgence in the passions, combined with excess in eating and drinking, and for a long time, sometimes extending over years, the individual lingers on; but life has no zest, for the capacity for enjoying it is gone for ever.

What habits are most detrimental to continued health and to long life?

The greatest and worst of all is the habit of taking alcohol in excess, and indulging in food greatly beyond what is necessary for the immediate requirements of nature. Either of these failings is disastrous in every way. The gourmand is simply sowing seed that must inevitably lead to gout, indigestion, and a hundred other ailments, if not immediately, most certainly in the course of years.

With regard to alcohol the dangers of excess in its use are both immediate and remote, and there is no surer way of sapping a sound constitution than by over-indulgence in this Promethean poison. But alas! it is little use warning those who are contracting bad habits, while there is yet time to correct them, that is, before they have caused permanent harm, by leading to structural changes in the kidneys and liver. Yet how many have I known die at middle age of dropsy from habits of tippling, contracted between the ages of twenty and thirty. How many a life full of hope and talent have I seen (and cannot every physician tell a like tale?), from this cause, close in gloom and sorrow unspeakable. The vain regret of be-moaning an existence cut short in its prime has

been pitiful to witness, and to others often terrible in its results.*

Of course mode of life makes a great difference in the quantity of alcohol that may be taken with impunity. A man doing hard physical work out of doors, can take an amount of food or stimulant that would very soon seriously injure a sedentary or literary man. The evil of indulging in stimulants is greatest when the habit is acquired at an early age, say, at the close of school-life, or, indeed, at an age between that and five and thirty or forty. That is, before the organs of the body have arrived at perfect maturity and the constitution is established, if ever it is to be so. The immediate effects of immoderate indulgence in stimulants, especially when taken in the form of undiluted spirit, such as gin and bitters, and other supposed aids to digestion, are more particularly associated with the

* The following table will show the average duration of life in the temperate and intemperate :—

The Immoderate Drinker's chance of living is—			The Temperate Person's chance of living is—		
At 20	...	15½ years.	At 20	...	42½ years.
„ 30	...	13¾ „	„ 30	...	3½ „
„ 40	...	11½ „	„ 40	...	28¾ „
„ 50	...	10¾ „	„ 50	...	21½ „
„ 60	...	8¾ „	„ 60	...	14½ „

The cheap wines and spirits sold in the present day are full of Fusel Oil, which makes them more injurious by far. Large quantities of potato spirits are imported from Germany and Holland for the purpose of giving body to cheap clarets and other wines, and these spirits are very poisonous.

The mortality is greater where spirits are drunk than where beer is the favourite poison. If this difference exists in regard to life, how much more must it obtain in regard to health averages. From a comparison of two societies in Bradford, in one of which the members are all abstainers and the other not, the abstainer's average days of sickness in a year are four, while the non-abstainer is credited with thirteen days in each year, the returns extending over eight years.

stomach and the brain. The coats of the stomach are soon injured and the nervous system so paralyzed that the food does not nourish, and therefore the brain and nervous system rapidly become starved from the want of healthy blood. The extreme nervous depression that ensues, drives the victim of excess to seek temporary relief by adding fuel to the flame. The end is not far. Indeed, it is a question as to which organ goes first, brain or stomach. The mischief is irrevocably done, and death closes a miserable and wasted existence. The faculties may be clear to the last.

The remote effects of alcohol taken in excess are developed in middle age, and are more particularly connected with the heart, liver, and kidneys, and in this case, changes in structure take place that usually terminate existence in the form of Bright's disease, cirrhosis of the liver, fatty degeneration of the heart, and other indications of tissue change that have been gradually developing for years. If alcohol is taken to excess, the appetite for proper food fails, and healthy tissue is not made, and therefore the organs naturally become diseased, as they are not vitalized by pure blood. Further, they are kept in a state of constant congestion, and work at high pressure, and as a result prematurely cease to be able to carry out their functions.

CHAPTER IX.

The physiology of nutrition—Bacchus and his votaries—Hogarth's characters—The beer, gin, and wine tippler—The shadow of death—Alcohol in moderation: its effects—The temperance craze—Most suitable stimulants—Alcohol in old age—Alcohol in disease—Special wines for obese and gouty—Aërated waters—Diet of the sedentary and active—Gluttony and tippling—Soerates' advice—Activity of the ancients—Fatigue, cause of—Overfeeding, evils of—A sensible man—Ill-health, causes of—Beef-tea a stimulant—Too little food, evils of—Fish as a brain food—Conservatism of our race.

AS this is not a medical work, it would be of no interest to the ordinary reader to have the physiology of nutrition explained in detail, and the changes that the different organs of the body undergo, when alcohol is taken in excess in its different seductive forms, whether it be in the shape of beer, wine, or spirits. Each have their own particular ways of doing mischief. Indeed, every one must be familiar with the aspect of the tippler, and the particular tittle that he indulges in, for each one has its peculiar characteristics. Bacchus is a jealous god, and he takes care that his votaries shall carry in their appearance clear indications of their piety.

The more diluted alcohol is, the less injurious are its effects. Hogarth, in his works, depicts the beer drinker as a large, fat, bloated individual; the

gin drinker as a thin, emaciated-looking creature ; and the wine bibber, with his full round face and well-cared-for look, but with gouty feet helpless in the midst of luxury. It matters not what form of stimulant the votary of Bacchus indulges in, if it is taken to excess physical injuries result, and the penalty is paid sooner or later with unerring certainty. The beer drinker, as a rule, becomes coarse, bloated, and obese, and if, as in the case of the London drayman, he meets with injury or an attack of any serious disease, he is almost sure to succumb. His system is so poisoned with refuse of all kinds, that he cannot throw disease off ; he is diseased *before* illness attacks him, and he dies, as it were, choked with his own poison. The wine drinker, especially if he is fond of good living as well, becomes fat, rheumatic, and gouty. In his case the alcohol develops the gouty constitution, even though he does not inherit it, and he becomes a martyr to ailments of all sorts, such as acidity, eczema, relaxed throat, bronchial catarrh, etc., due to excess of uric acid in the blood, and many other troubles, too numerous to mention.

The spirit drinker is more prone, if his life is prolonged, to disturbances of the nervous system. The tremulous hands, the restless nights, the inability to sleep, are his form of punishment, until some organ, such as the stomach, the liver, or the brain gives way, and he is gathered to his fathers, the victim of dropsy and paralysis, long before he has reached the three score years and ten of the Psalmist. How many a life full of hope and talent have I seen end in this way, and cannot every physician tell a like tale ?

It may be asked—and it is an important

question—What amount of alcohol an adult of either sex can take and continue to take without harm throughout life? Dr. Parker, a great authority on the subject, considers that the system can assimilate or throw off without injury one ounce and a half of pure alcohol daily. This would be represented by three ounces of whisky or brandy, half a pint of port or sherry, one pint of claret, or any light wine, or three half-pints of ale, stout, or cider. I think this far too much, as a general rule. Speaking as a dietitian, I believe that *any* amount is too much, because alcohol is not a food or a requisite, and the healthiest and longest lived are those who never take any at all.

But, as a rule, the man who takes none is generally a faddist ; he takes no meat, or he takes no vegetables, or he lives on fruit, or has some other foolish idiosyncrasies, or he is devoid of those attributes of good fellowship that make his company pleasant to others or with others, and therefore is no specimen of what an individual should be, or a credit to his abstinence. There is a mistaken notion among people in general, that alcohol is a food and a necessity. It is nothing of the kind. Spirits do not *nourish* the *brain* or the *body*, either in *health* or *disease*. They stimulate the nervous organization for a time, and therefore in depressed states of the system are most valuable in tiding the invalid over until food can come to his rescue.

It is pitiful to hear, as I so often do, people say, "Oh, I cannot do without a glass of wine in the morning!" or, "When I feel depressed, nothing does me good but some champagne." The man or the woman who has to fall back upon stimulants to do the ordinary work of life or bear its

worries, has a screw loose somewhere. I am not an abstainer myself, nor do I try to make those who come to me be so. As a man of the world, I take humanity as I find it ; but I try to persuade those that come to me to be dieted for gout or obesity or any other ailment due to improper food or excess, to take the stimulant, that is more particularly suited in their particular case, in moderation, and if I think they cannot do that, I try to persuade them not to take any at all.

While on the subject, it may be pointed out that certain stimulants are unsuitable in certain conditions of the system. For instance, the bilious individual should not take malt liquors or sweet wines, such as sherry, port, champagne. If he requires a stimulant, or thinks he does, weak brandy, or whisky and water, or some light Moselle, or sound vintage claret, or a champagne, are the best. For my dietetic purposes, Lacaze-Rousseau, of 98, Shaftesbury Avenue, London, import a champagne which is entirely free from sugar, and therefore admissible in obesity, gout, diabetes, and other states of the system in which sweet wines are poison. If wine be required, and its action is not quite so ephemeral as brandy, these mentioned are the most suitable in such cases. When age has sapped the foundations of life and chilled the blood, and the different organs work sluggishly, a little good wine is undoubtedly a comfort and a help, and there is no reason whatever why the aged valetudinarian should not take a moderate amount ; further, there is not the danger in old age of its being taken in excess. Indeed, we have the authority of even St. Paul in his advice to Timothy, for the fact that wine under certain conditions is beneficial.

Assuming a person takes alcohol from habit, the form in which it should be consumed for continued health entirely depends upon the constitution and its defects, and this is the point on which the physician is often called upon to advise. For instance, if a person is gouty, or inclined to be corpulent towards middle age, he should not take wines that contain sugar, but those in which the fermentation is run through and the sugar become chemically decomposed. There are plenty of wines of exquisite flavour of this class, such as the dry Moselles, so well known for their bouquet and characteristic aroma. Drohner, Trabener, Schloss Rheinhausen, Oligsbürger, and Rosenberg have only to be tasted to be appreciated. These wines have been imported for my purposes by A. Aldous, 66, Hatton Garden, London, who has taken much trouble for me in the matter. Clarets are bad wines for the corpulent and gouty, as they contain tannin, and sometimes sugar, and therefore tend to constipate and disagree.

In the case of the obese, the gouty, and the bilious, malt liquors are usually *poison*, and if such people must take alcohol it should be in the form of spirits, such as whisky in moderation, well diluted with some aerated antacid table-water; this tends to prevent any after ill effects from its use * in the form of headache. Indeed, well diluted with an aerated table-water such as Sparkling Kalzmar, spirit does not injure the stomach, or cause the acidity that is so often found the next morning

* Sparkling Kalzmar is bottled in the Taunus Mountains in Germany, and is pure and refreshing. It is the table-water of all others for the gouty and the corpulent, as well as for those who suffer from acidity in any form. It may be procured from the Kalzmar Water Co., 98, Shaftesbury Avenue, London, W.C.

after excess. This acidity is commonly known under the expressive but vulgar term of "hot coppers."

As I have before remarked, if a sound constitution is to be maintained beyond middle age, excess in eating must be equally guarded against, and more than this, the food should be adapted to the requirements of the individual. Here again the truth of the old adage, which says that "what is one man's meat is another man's poison," is illustrated, and the food of the active, physical, hard-working man, whatever position in life he may occupy, and the sedentary city man, should undoubtedly be, to a certain extent, different, both in quantity and constituents.

It often amuses me to see the rabid teetotaler eating to excess, and because he is prejudiced against every weakness but his own inveigh against alcohol, on account of its injurious effects to health. We all remember the lines of Hudibras that refer to this weakness of humanity. Eating to excess, though it brings on diseases that shorten life, is not quite so injurious as drinking to excess, nor does it entail the same amount of misery to others; but a man to be consistent, if he objects to alcohol as injurious to the constitution, should object equally to taking food to like excess, for undoubtedly a man may eat himself into obesity, biliousness, indigestion, and ill-health as well as he may drink himself into a similar condition. The crusade against alcohol is persistent, and faddists of all types find in its ranks an outlet for their zeal; but who ever heard of a crusade against gluttony? indeed every endeavour is made to minister to the demands of the stomach, and to

tempt the palate with food beyond what it requires or is good for it. A *chef* is appreciated according to his capacity to fabricate dishes that entice the gourmand to eat when he is not hungry, and to overload a stomach already too full. But Epicurean tastes are not mere latter-day weaknesses, for Socrates two thousand years ago advised the Athenians to "Beware of those liquors that tempt you to drink when you are not thirsty, and those foods that tempt you to eat when you are not hungry." Possibly the more active habits of the ancients saved them from many of the evils of over-eating, though gout was common in those days, as the works of Hippocrates show. In my professional capacity as a dietitian many hundreds naturally come to me for derangements due to consuming too great an amount of food, or articles of food not adapted to their particular requirements. This excess of food often leads to a state of absolute disease in the form of chronic indigestion, obesity, or gout, and, by clogging the system with waste, to more remote effects, in the shape of headache, neuralgia, nervous depression, sleeplessness, and many other conditions that lead to persistent ill-health. A very common effect of taking food to excess, that does not nourish the nervous system, is want of condition, as evidenced by a general feeling of malaise and fatigue after ordinary exertion. Indeed very few people are in what one may call, Condition. They may be in health, and may do their work in a perfunctory manner; but the individual in *good condition* does it with zest and energy, and life seems brighter and more pleasurable in every way.

The evil of this particular state of health without

condition, is that it often induces the victim to seek the aid of alcohol to stimulate the flagging energy, which is disastrous, instead of that food the system craves for but does not get. For such a state of affairs a cup of good beef-tea or bovril, taken between meals, is far better than a glass of wine. Later on I shall touch upon this more fully. The greatest evil of immoderate and improper feeding is undoubtedly obesity, and there is no condition which prevents enjoyment of life and even curtails it like this. The subject of obesity, whether male or female, is always existing, as it were, on the brink of a volcano. A little extra exercise, and his heart, overloaded with fat, fails him; or, if any illness comes, however trivial it may be, he is handicapped by being out of healthy condition, with organs inactive and overgorged, and therefore unable to work healthily. He is like a machine that is dusty and dirty, or a chimney that is foul and wants sweeping.

I remember a gentleman coming to me two or three years ago. I think he was about the most sensible man I ever knew; for he said, "Doctor, there are greater pleasures in the world than eating and drinking. I am fond of fishing, hunting, shooting, and travelling; and if there is any mode of dieting that will enable me to compete with younger men, I am willing to go by any rules for a time to attain it. When I am out shooting, I find that I am obliged to cut corners, and I do not like to be beaten by younger men." He was fifty-five years of age, and about twenty pounds heavier than he should have been for his height. Two or three months' proper dieting relieved him of this and put him in thorough condition; and when I saw him a

year or two after, by adhering to a few easy and simple rules that I laid down for him, he was able to compete with much younger men and hold his own as he did when he was twenty years younger. He also regained his nerve, which had begun to fail him when out hunting.

This case is mentioned, simply to illustrate what proper dieting undoubtedly will do. The errors of improper diet are cured by proper diet and not by medicine ; indeed, there is no more fatal habit than that of trusting to aperients and quack pills and mixtures for relief from ailments, such as biliousness, indigestion, constipation, and gout—ailments that are brought on by excess in eating and drinking, or by taking certain foods that the system will not assimilate. I have known persons who have gone on for years in indifferent health because they were living on food that was not nourishing the system, or suited to their particular constitution. The cutting off of a little bread, or the addition of a cup of beef-tea to the daily diet for a time, will often make the difference between *ill* health and *good* health. I am no advocate for that particular professional preaching that teaches that existence should be constantly carried on under strict rules. Life would be unbearable if it had to be lived on in such a manner ; but a few little rules, that by no means curtail the pleasures of the appetite, and still make a great difference in comfort and length of life, are surely not out of place. In fact, life cannot be enjoyed, if those rules that conduce to its healthy maintenance are constantly broken through.

Most of us eat too much from habit, or from the temptation laid before us in the Sybarite menu of

these latter days. When we eat plain food to appease the calls of hunger, we do not eat to the extent that we do when tempted by a succession of dishes cooked with utmost refinement of culinary art, and washed down with choice vintage wines.

Not that a dinner of many courses is not beneficial or as digestible (indeed, it is often more digestible) as one of plain meat and vegetables; the evil of it lies in the fact that it tempts us to eat more than nature requires, and thus leads eventually to ailments that come as the result of waste stored in the system, where it is out of place and a bar to continued health and happiness.

On the other hand, some eat much too little, and from that little do not derive sufficient nourishment to keep up the bodily and mental powers; hence such people are always *below par*. In such cases the quantity of food taken should be so chosen as to contain the largest amount of nourishment in the smallest amount of bulk. For the brain-worker, soup, fish, poultry, the lighter kinds of meat and game fulfil these indications and furnish the requisite ailment; but in the case of literary and sedentary men, the intake should be carefully apportioned to the wants of the system. If too much concentrated food is taken without sufficient exercise, the waste naturally becomes stored, and thus periodically the victim is reminded by a fit of gout, biliousness, or indigestion, that he is outraging nature. For the sedentary, fish furnishes a most appropriate diet, not that it is more nourishing to the brain, as some suppose, than other flesh food, but because it forms a moderate amount of muscle and nerve-forming material, and this in a highly

digestible form. It is a national disgrace, that an important article of diet, so plentiful, so easily within reach, and so valuable to the poorer section of the community, the production of which costs nothing, should be an expensive luxury, and this simply because it is the interest of the fishmonger to keep up its price. In these days of public companies, it is strange that one has not ere this been formed to remedy this anomaly. There "is money in it," and there is more than money, there is true philanthropy. In this way the existing monopoly would be broken down, fish distributed throughout the country at a cheap rate, and every section of the community benefited, the health and stamina of the teeming population of our inland towns* being materially improved, as a matter of course.

The day is dawning, I believe, when the subject of food with relation to health will form a part of our education. Sanitary science has of late made rapid strides with results that are already an untold national blessing. It is not, therefore, too much to hope that the science of dietetics may have its day; and if it does, our posterity will be a stronger, healthier, and longer-lived race. Here our neighbours are certainly ahead of us, and the phrase, "They do these things better in France," is certainly true and applicable. We English are a conservative race, and slow to move with the times. The reply of an individual I was once trying to teach a more modern and better way of doing a small thing was characteristic. It was, "This is the way my

* We know what has been done in this way in the case of wine. One or two companies have agencies in every town and large village. The same might be done with fish, with far greater benefit to the community at large.

grandfather did it, this is the way my father did it, and this is the way I will do it." *Ex uno disce omnes.*

Perhaps in those happy days of education in dietetics that are to come, when the art of healthy cookery is an accomplished fact, we may suffer less from gout, obesity, indigestion, and other more numerous and now common but entirely preventable diseases ; for nature and taste do not always teach us what is best for us, nor are we in the earlier years of life invariably guided in the right path by parents.

The child who is spoilt by injudicious and mistaken kindness, and is allowed to eat this, and not allowed to eat that, often pays the penalty in after-years. Habits, for good or harm, as we all know, acquired in early life, are difficult to break when they become established. Nature and appetite are often better guides than the fathers and mothers of the *present* day, and the children of the poor in rural districts, who eat what they can get, are the healthiest of all.

CHAPTER X.

WHAT IS CONDITION ?

Health and Condition, its meaning—Constitutional flaws—Perfect health and infectious disease—Talent no bar to ignorance and credulity—The dangers of quackery—Imperfect health—Sowing the wind and reaping the storm—The horse in condition and out of it—Working below par—Diet to be adapted to constitution—Diet in relation to occupation—Appearance, influenced by diet and exercise.

WE all understand the meaning of the word "health," and still there is no word that is more elastic in its application, or more often misapplied. A person may go to his work from year to year, and continue his ordinary mode of life, and, in the usual acceptance of the term, and in the opinion of others, be considered in good health. Still, if we come to examine him, we shall find that he is working with organs that are by no means performing their functions with the activity and the vigour that they should, even though they may be absolutely free from disease, nor does the individual himself feel that elasticity, buoyancy, and energy that he should do ; indeed, all this time, though his state may not attract attention or comment, some of the organs may be insidiously undergoing changes which, before middle age is over, will develop a condition which becomes

incompatible with work, or the ability to continue the ordinary occupations of life. The reasons for this may be various. There may be some flaw in the constitution to begin with, some hereditary defect, and this, during infancy or adolescence, may have been allowed to undermine it; or it may be that those whose duty it was to minister to his wants in the early years of existence neglected to do so: hence the constitution may have been permanently injured; he may have been the victim of parental neglect in other ways, that may leave life-long consequences.

Physicians are familiar with instances of weakly constitution in dry-nursed children, due sometimes to physical defect in the mother, but oftener to the want of maternal instinct and lack of duty. Indeed, there is no more fatal neglect than this, and many a father has to mourn the loss of one who may have been the light of his home and life, who has been sacrificed to enable the mother to follow the dictates of fashion, when she should have been obeying the dictates of nature.

Assuming these pitfalls to have been escaped, it may be that in adult years his mode of life is not correct in regard to the relationship of food and work, or of food to work; or it may be that the amount of work that is done entails more expenditure of nerve power than the food taken can generate or sustain, and therefore the individual is always what is known as below par. In this condition he is naturally more subject to colds, bronchial attacks, diarrhœa, and many more dangerous ailments, and far more prone to any disease that may be epidemic to which he is exposed.

The human body, in good condition, is like an impregnable fortress—unassailable. Dr. Lionel Beale says, and his opinion is shared by other eminent physicians, “ I believe that if the organism be in a proper state, almost all disease germs coming in contact with it, or entering it, will certainly die, instead of growing and multiplying, and deranging or destroying important constituents of the blood and tissues. Many of the poisons in question are round about us—in the food we eat, in the water we drink. The foot of a fly will carry enough poisonous matter to infect a household. It is therefore vain to be always seeking to annihilate contagion, which you can only destroy to a most limited and probably useless extent ; on the other hand, it seems exceedingly reasonable, and especially on the part of nurses and ourselves, who must be continually exposed to the assaults of disease germs, to do all that is possible to promote and improve the resisting power of the body. We always notice that, of those exposed to the same adverse conditions, but a very small percentage will be seriously ill. A moderate number only, after suffering exposure, will catch cold, or experience some slight derangement. The majority will entirely escape. No doubt such facts may, in part, be explained on the supposition of the existence in the constitution of supreme health or the converse, in the different individuals. Allowing amply for this, however, there is good ground for concluding that it is possible to preserve the body in such a state of health as would enable it to resist attacks of contagious disease, to any one of which, if out of healthy condition, it would certainly succumb.

In other words, there is good reason for the conclusion that it is possible to resist the onslaught of contagious poisons, if these factors are taken into consideration, and therefore that it is possible to still increase the health of the community. By detecting and treating slight derangements in their early stage, I have no doubt whatever that we frequently succeed in establishing a state of the system which renders the supervention of serious disease almost impossible."

Still many people are satisfied to go on in indifferent health day after day, and year after year; and, of course, if they will not take the trouble to learn, or to ask those that know to tell them, how the human machine should be kept in proper order, this unsatisfactory state of affairs must result; or, perhaps, failing to find relief at the hands of the legitimate practitioner, they place themselves in the hands of some unscrupulous quack, who, if he does not irrevocably injure their constitutions or kill them, at all events depletes their balance at the bank. It seems strange, but it is nevertheless true, that clever lawyers, authors, men of business, women of renown, and men of the world, fall an easy prey to the most unblushing mendacity, when it is applied to the treatment of diseased conditions in their own persons. Clever men often fail to detect imposture if it is wrapped up in high-sounding, but meaningless medical phrases. If an ignorant person pretended a knowledge of printing, music, engineering, or even law, he would be detected in a moment; but any old woman, or plausible knave, can with impunity, without any knowledge whatever, claim to cure every disease under the sun; and those who believe

nothing in the earth beneath or the heaven above, will entrust him with their most precious possession—health and life—and credit all that is told them. The credulity of people, whom the world calls clever, is in this respect surprising.

If this be not so, who takes the poisonous blood mixtures, pills, syrups, etc., for all sorts of ailments, and the medicines advertised to reduce fat, that ruin the health and digestion, and kill hundreds every year? Certainly not the poor, for they cannot afford the charges, but those people whose intelligence and common sense ought to teach them better. I can solemnly aver that I have, within the last five and twenty years, seen scores of valuable lives lost, as the result of taking quack medicines in the early and curable stages of such diseases as consumption, diarrhœa, Bright's disease, constipation, nervous debility, diphtheria, and other ailments, that taken in time, with skilled attention, would have yielded at once, but which, aggravated at this stage, have passed into the incurable, and ended in suffering and death. But it is useless appealing to the reason of people who believe in Homœopathy, blue and green electricity! quackery, and the wiles of charlatans.

We do not entrust an inexperienced person with the care of an engine—say, working one of the P. and O. steamers; but we take care that before such a one is so entrusted, he shall be taught every detail of the mechanism of that machinery that keeps the vessel in its course through storm and wave, and the result is that any defect that may arise is soon remedied by skilled hands.

So long as a person is satisfied with an imperfect state of health, all well and good. Possibly—but

this is by no means always the case—the only person who feels the inconvenience of it is himself, and for many years it is the inconvenience only that may trouble. It is true that he is drifting gradually to a worse state of affairs; but he may argue that it is no use, or too much trouble to attempt to live according to rule; that he has not the inclination to take exercise, or to learn what are the proper foods, at different periods of life, that keep the human system in proper working order. The evils of this carelessness may not bring in its train many troubles until middle age is nearly over, and then by that time, possibly the individual who might have enjoyed health to old age, has laid in a stock of waste, and has allowed his system to rust to such an extent by perverted nutrition, that the remaining years of his life become a burden to him.

For instance, he may enjoy a certain amount of health from youth to middle age, and may be gradually becoming obese, or may be developing symptoms of gout, or may be drifting into Bright's disease, or some affection of the liver due to change in its structure.

Now, this mode of life may, as I have said before, be compatible with a certain amount of health, and a certain amount of work; but if a man wishes to enjoy robust health, and to remain year after year in what may be called good condition, and this really means perfect health, with every organ working harmoniously, more care is required, the supply of food must be equivalent to the demand, and must nourish the different tissues of the body, and when it has done this its waste must be eliminated by the different organs whose duty it is to do it.

To attain this object it is necessary to take a little trouble. It is true that the individual will be more than repaid for it. Life to him will then have a zest that it has not to the ordinary individual, and work will be a pleasure at an age when others have laid it by for ever, or paid the inexorable debt of Nature.

Perhaps, to illustrate what I mean by the difference between health and condition, I cannot do better than put it in this way, as thus expressed, it will appeal to most readers. A horse, while he is out at grass, may be in very good health indeed, and able to do a certain amount of gentle work. It is true that when he is worked, he is listless and lifeless. He seems to have no energy, and no spirit, and yet no one will say that the animal is not, in the usual acceptance of the term, to a certain extent in perfect health. The same applies to the human being. He is like a horse out at grass. An engine *will work* when it is dirty or rusty; but when this is the case it does not work without noise and extra friction. There is a screw loose somewhere in it, and this means that if it is not properly cleaned, repaired, and kept in order, it will not last long. A coach will run with the drag on, but it requires much more labour to draw it.

In my occupation as a dictitian, I get instances daily of the condition that I am trying to illustrate. The human mechanism is rusty, there is a drag on the wheels of life, and they do not run easily; we all see instances of this state of *health*, without *condition*, though the expert only appreciates its meaning. A person goes to a physician; he has, perhaps for years, or perhaps for the whole of his life, been working without energy and without

pleasure, feeling fatigued after slight exertion, irritable and annoyed at trivial troubles, which would not ruffle him in the least if he were in robust health; working on in spite of lassitude, headache, pain in the muscles, or neuralgia, or indigestion, or constipation, or skin disease, or some other ailment that continually worries him; or if, as is usually the case, he belongs to the luxurious classes, unable to enjoy his hunting, his shooting, or any occupation that it may be his fortune to have the means to indulge in.

He cannot do it with the zest and pleasure that he should, or wishes to. There is something wrong somewhere, and this may possibly have been going on for years. I remember, some years ago, a lady who was exceedingly obese visiting me. On a proper system of diet she came down to normal dimensions, with the result that life to her assumed a totally different aspect. She was able to return to the riding and dancing of her younger days, and to enter into different amusements with a pleasure she had not recollected doing for many years before. Her husband happened to be exceedingly thin, and unequal to the amount of energy and activity that a man at his time of life should have. He thought that as his wife had benefited through a certain line of diet, possibly in his case the same thing might occur; and this actually turned out to be the case. His old diet was unsuitable for his constitutional requirements; his nervous system had for years been feeble, and his muscles flabby. By putting him on strong soups, a considerable amount more meat than he had been in the habit of taking, and altering his mode of life entirely, he became, in a short time, a totally different man;

and contested a division in Ireland—not a very easy matter, by the way—with the greatest energy, and an energy, as he told me, he could not possibly have shown in previous years. Here were two individuals blessed with everything that should make life happy and worth living for, but the knowledge of how to live, and what to eat. I point out this case to illustrate that very often an imperfect state of health may depend upon a wrong system of diet, or a wrong mode of life persisted in for years. Of course where a man is desirous of not only enjoying robust health but also absolute good condition, a certain amount of living by rule—if eating nourishing food can be called such—must obtain. A man, to do this, must take a little trouble, for a time, in this case, to adapt the diet, the exercise, the rest, and the work to the capacity of the different organs called upon to perform the functions indicated. There must be no waste in the food that can remain in the system when the system has done with it. There must be no excess in stimulants, or in any other luxury or passion that depresses the nervous powers. The nervous system is to the economy what the mainspring is to the watch, and we all know that if the mainspring of a watch is not tempered steel, and in perfect tension, the watch will lose, and if it is not wound up at the arranged intervals it will, of course, stop. There are certain foods that nourish the nervous system, and there are certain foods that keep it in repair, and upon the proper adjustment of these elements its perfect condition depends. It may be imagined that a great amount of exactitude is necessary in accomplishing this end, and that it means innumerable hard rules; but nothing

of the kind is the case. The human machine, though a very complicated one, is one that adapts itself quickly to circumstances, and can be kept, for a very long time indeed, in perfect working order with what should be considered very little trouble. It does not matter what a man's mode of life may be, there are certain indications that should be observed, if that life is to be prolonged to old age with comfort, health, strength, and ability to enjoy it. People will not take the trouble to consider that a literary man, or a commercial man, sitting in his office all day, requires a slightly different mode of living, say, to the officer of a cavalry regiment, or the country gentleman who indulges in shooting, fishing, hunting, and other athletic pursuits. Still less will those most interested learn the little differences that should be made in these two respective modes of life, and still this means the difference between perfect health and long life, and imperfect health and life cut short. Differences in mode of life, and their influence in regard to health and longevity, apply equally to both sexes. Conditions due to excess of food and insufficient exercise, are as common in the female as the male; but in the case of the former, excess of fat is the bane of a too luxurious mode of life.

Exercise and diet and a few other rules easy to learn and not difficult to keep, in this case are an absolute necessity if women want to enjoy proper health and retain the figure and beauty that may have been their heritage in early life. There are very few who care to look matronly before middle age, and still there are very few indeed who do not do all they can to bring this about.

CHAPTER XI.

Aristocratic ailments—The London season—The *debutante*—Exhausting the nervous system—Close rooms and undue excitement—The waste of life—The Bournemouth Cemetery—Banished to die—Care of the teeth—Consumption—"Too late"—Poorness of blood—Cicero on middle age—Occupation necessary to health—Work during working hours only—Oiling the machine—Mental health—Solomon on sorrow—The diet of grief—The depressing influence of trouble on the nervous system.

AMONG the upper classes, the luxurious mode of life and the want of exercise during a large portion of the year leads to the accumulation of waste in the system that tends to develop a condition that is not compatible with beauty of form or of figure, or with the clear and ruddy complexion that is a *sine quâ non* in a beautiful woman. Indeed many of the luxurious classes begin life at an age when the different organs of the body have not arrived at full maturity, and we all know how few seasons in London it takes, through the artificial mode of life led, to dissipate that beauty that should last to middle or even to old age. The age at which girls are "brought out" to undergo the excitement and fatigue of the London season is far too young; the very strong may stand the strain, but at what a cost! the weakly go to the wall, or lay the foundation of disease, that cuts life short a few

years later. More than this, the "debutante" is not "fed up to it," if one may so express it; ices, sweets, champagne, and iced fluids containing a modicum of alcohol in one of its seductive forms, are not the dietary that feeds the nervous system, or that tends to insure continued health and strength, so the aid of tonics is sought to stimulate the flagging energies, and induce an appetite that should come from robust health.

There is no more fatal bar to health and condition in mature life than that of taxing the nervous system and indulging to excess in pleasures that tend to enervate and destroy it before it is firmly established.

In the young girl nothing is so effectual for this purpose as late hours, close rooms, undue excitement, and the irregular hours of meals that this mode of life entails. It is true that some are so situated that they can retire to the country, and indulge in healthy amusements, or travel for the other eight or nine months of the year, and in this case to a certain extent recuperate. There are, however, thousands who are compelled to remain in a close city day after day, from one year's end to the other, and these are the ones whose health breaks down, who become anæmic, or perhaps coming of a stock who inherit the scrofulous or other imperfect constitution, drift into consumption and an early grave.

There is no London consultant who is not familiar with types of each individual delineated here, or who is not constantly seeing the waste of life that this mode of existence necessitates. The pleasures of undue excitement and gaiety, and the uncontrolled indulgence in the passions, may be very

engrossing while it lasts ; but it is pitiable to see many young girls and young men sent away in the prime of life to places like Madeira and the Riviera simply to die ; and still there are very few physicians to whom such cases are not familiar. Human nature is frail, and the experience of age cannot be put upon the shoulders of youth. The moralist may preach in vain.*

It is a curious fact in these days that more care is taken of the teeth than of every other organ in the body put together. Of course, to a certain extent, it is quite right that the teeth should be cared for, for the proper mastication of food is absolutely essential to health ; but it is equally or more important that those who wish to live healthy to an old age should every now and again be subjected to a little examination as to the state of other and more important organs.

The dentist examines his patient periodically to see if there is any dental caries insidiously creeping on, so that, if this should be the case, he may arrest it before it has gone far enough to destroy the teeth. But though many of the diseases that destroy life are equally insidious in their early stage, there are very few people that think it at all necessary to have the different organs of the body

* A visit to the cemetery at Bournemouth furnishes painful food for reflection. Here, under costly monuments, sleeping their last sleep, are hundreds of the young, the fair, the beautiful, cut down in their prime, by a disease easily prevented by proper management during adolescence. What a waste of young life, and what desolate homes are represented here ! and this often due to causes indicated in this chapter. The seeds are sown in late hours, excitement, improper food, undue fatigue, and consequent deterioration of blood and health, and the fruit is reaped in—death. So the process goes on until, as in many cases, the inevitable collapse occurs, and an attack of hysteria—showing a nervous system exhausted from want of proper food and undue excitement—brings matters to a crisis.

occasionally examined, and if any flaw should be detected to have it remedied, where possible, before it is too far advanced, or it has implicated other organs in its vicinity.

Very often there may be a flaw commencing in some important part that, diagnosed in time, may be easily and effectually repaired and life prolonged thereby even to old age.

From a want of this periodical examination, every medical man is familiar with cases where some particular organ has been gradually drifting into an unhealthy state quite unsuspected by its owner. There are conditions of the system and changes going on, even before middle age takes place, where a thorough examination, such as an individual would undergo for life assurance, would reveal the mischief, while there was yet time to arrest it. This peculiarly applies to the early stages of consumption.

If the teeth require to be periodically examined, it is undoubtedly as important that the other organs should undergo the same scrutiny. Many of the diseases, that destroy life in middle age, would then be detected in early life, for the seeds of some of them are planted at that period, and a few simple rules laid down for the guidance of the individual would save much pain and suffering later on.

We do not expect the young and thoughtless to have this forethought; but where the lives and happiness of others depend upon it, it is only right for their sakes, that the father or mother or other guardians should study the health of their offspring, and occasionally have the vital organs sounded by a physician, to see if there is any defect creeping on, likely to lead to untoward consequences.

How often a physician has to say to a patient, "I wish you had come to me a year ago;" and how often will indifferent health or poorness of blood in the weakly, develop consumption, or the neglect of a small tumour lead to results that may entail later on a formidable operation, and this, probably, in vain. Indigestion neglected may become chronic, and the nervous system, from want of nourishment, may be weakened to such an extent as to lead to continued ill-health, extreme depression, and even to insanity. Half the inmates of our lunatic asylums come of those who eat too little, and that not of the proper food, and work too hard, or of those who eat and drink too much and work too little. It has been pointed out before, and it cannot be pointed out too often, that if you work the brain, you must feed the brain, and if you work the body, you must feed the body, and that the food for these purposes should be differently apportioned.

Again, a man may often go on for years loading himself with fat, and I know of no state of the system that is so disadvantageous to condition and to enjoyment of life as this; but it creeps on insidiously, and as apparently good health is being maintained and no unpleasant symptoms occur, perhaps until middle age is well advanced, it is allowed to go on uncontrolled. Then the strain that is thrown upon the heart by this state of affairs weakens its power of propelling the blood through the tissues. This leads to congestion of different organs, and so on to premature death. Or a person, by a mode of life and by a dietary that may not be suited to him or her, may be quietly laying the foundation of gout, and before middle age is reached may become a martyr to

persistent and periodical attacks of this painful disease which wears out the remainder of his life. (See Gout, p. 148.)

Another, from an improper mode of life, taking more fat, or, worse still, perhaps more sugar than his system requires, keeps the liver constantly gorged, and thus suffers from persistent bilious attacks, with all their train of unpleasant symptoms in the form of sickness, headache, and diarrhœa; or, perhaps, indulging in too much sweet, starchy food, suffers from periodical attacks of indigestion and stomach trouble in its various forms, to relieve which the victim flees to the aid of drugs or quack remedies, which only aggravate the mischief and make a temporary ailment permanent.

These errors in the mode of life, long before old age is reached, induce a state of health that may seriously interfere with the enjoyment of the remaining years. If an excess of stimulants is taken between the age of twenty-five and forty, it will cause deterioration of tissue that at about the age of fifty to fifty-five will develop Bright's disease, disease of the liver, or some other abnormal condition of those organs whose health is necessary for carrying on their functions, and thus, when this is the case, bring life to an untimely close.

The reader may think that I am an alarmist, and that I am holding up bogies that only frighten; but that is by no means the truth. I am only endeavouring to show how easy it is and how pleasant it may be made, to live to a good old age, and I am trying to demonstrate that certain habits and carelessness in the mode of life may prevent the attainment even of middle age.

Cicero says that to live long we must live slowly;

but there is only a certain amount of truth in this observation. You may live long, and you may still enjoy every pleasure that the world provides. To enjoy them long, is simply a matter of enjoying them in moderation. The enjoyment of them does not necessarily imply that they are injurious ; indeed, a person may enjoy life and yet live a very long, healthy life. It is perfectly true that more *rust* out than *wear* out.

The great thing is to cultivate in early life pleasures that conduce to health and consequent long life, and in reality the greatest pleasures that there are, do conduce to long life. A man or a woman who is fond of travelling, golf, riding, hunting, fishing, walking, or who cultivates some taste that involves muscular action, more particularly in the fresh air, is the man or the woman who enjoys life and complete and perfect health longest.

To induce this, it is a pity that every boy and girl is not brought up, either at home or at school, to take an interest in some occupation compatible with their position in life, that would entail muscular exercise, such as gardening, carpentering, cabinet-making, or any occupation that would necessitate a little muscular display. Of course such games as cricket, football, golf, or such sports as running, bicycling, or skating, are excellent recreations, and gymnastics, under proper guidance, are capable of doing a great amount of good, but the spirit of emulation among boys at school, will sometimes lead those who are not physically strong, to compete with those who are, and thus serious harm may result. The will is often stronger than the body, and precipitation and energy are naturally

the characteristics of youth without the discretion that age brings in as to how far they should be applied.

Many men, whose occupation and habits are sedentary, would enjoy far better health if they could go and do a day's manual work, such as gardening or carpentering, or indulge some such occupation as fishing or shooting, every now and again. This would prevent the tendency such men have of taking the counting-house, office, or editorial chair, home with them—a most fatal habit, and one that certainly leads sooner or later to disastrous results. The inmates of private asylums are mostly recruited from among this class. Work when you are at work, and think nothing of work when you are out of work, should be the axiom of every man who wants to live long and to continue in robust mental and physical health.

If condition is to be maintained and the individual to be placed in what may be reckoned supreme condition and perfect health, the best plan is for him to go and consult some physician or expert in dietetics, who will carefully go into his particular requirements and constitution, and then lay down rules that he should carry out implicitly for a time. The man who tries to do it himself will fail, for obvious reasons.

I remember some years ago a patient who persistently, from faults of his own, used to get into a bad state of health, mentally and physically. I pointed out to him that the human body was like a machine, and that it required much the same kind of treatment, and so familiar did he become after a time of this state of affairs that he used to come to me with the exclamation, "Well,

doctor, the machine is broken down, or is in want of a little oil." When he was induced for a time to live by rule, and diet properly, take some light wine instead of champagne and port, his health was soon restored. Medicine he would not take, he called it "poison," but he took a more potent poison, in the form of alcohol in excess. And with the usual result. So much for want of condition as far as the body is concerned.

Now with regard to mental condition and those factors that conduce to it. In some constitutions there is undoubtedly great sympathy between mind and body, more particularly in those of the nervous temperament. Mental worry in those of this idiosyncrasy, especially where the food is not adapted to nourish the brain and nervous system, will act detrimentally to the bodily functions, and throw them out of gear. Indigestion, with all its train of symptoms, is often due to this cause. Bread eaten in sorrow will not nourish. Solomon knew this, and mentions it.

Loss of appetite and loss of sleep, with all the unpleasant consequences that follow in their train, may be due to anxiety or grief, as well as to errors in diet. Mental grief depresses the nervous power, and the bodily functions become paralyzed. The nervous power is the mainspring of life, and when this is utterly exhausted, life cannot be carried on.

Food may not assuage grief or remedy mental worry, but brain food in the form of strong meat essences, animal food, soups, and meat jellies, in small quantities at frequent intervals, will keep up the nervous power, and enable an individual to tide over what under other circumstances would overwhelm mind and body in one common ruin. To

take alcohol in any of its seductive forms for this purpose is fatal. The stimulating effect of alcohol when the brain is depressed is but transitory, if even that, and the depression after is greater, since in no possible way does alcohol *feed* the brain. There is no more common error than this one about stimulants. People think that a glass of wine or beer strengthens. It does nothing of the kind, excepting in so far as it contains, in the one case sugar, in the other, sugar and starch, and these are foods that can be taken better in other ways. I am not for a moment suggesting that there is any harm in a glass of either the one or the other, and that if they stimulate the appetite, as in illness, they are not absolutely beneficial, but as far as strength is concerned, a cup of good strong beef-tea would be far better, and its effect would be more lasting.

The foods indicated will do this, and as the nervous system gains strength, the bodily functions will respond to the stimulus.

Under conditions entailing great and long-continued mental strain, the food should be easily digested, and therefore more particularly of that kind that nourishes the nervous system; in this case, mental work or worry does not end in mental collapse.

CHAPTER XII.

A philosopher's dicta—Byron's death—Burns's death—Southey and literature—Sardanapalus on wine—Sir Walter Scott, his mode of life—The days of the Regency—Sympathy between mind and body—Mental effects of indigestion—The taint of insanity—Softening of the brain—Famine and its effects—Condition in old age—Fisher folk long-lived—Vegetarianism injurious—Luigi Cornaro—St. Paul on wine—Changes in old age to be made carefully—Long life, rules conducive to.

SOME philosopher says that "Mind is matter and soul is porridge." How far this is true may be a matter of opinion; at any rate, the mind will not work long without the stimulus of matter, in the shape of food. The electric light will go out, if the coal in the engine that generates it fails. I use this illustration simply to emphasize that mental power, like muscular or mechanical power, is simply a question of proper food or fuel.

The finest constitution and mental organization in the world will not last long if the laws of nature are outraged on every hand. Byron died at thirty-six a worn-out old man, though he had an exceptionally strong constitution as a young one, and swam the Hellespont—a feat of endurance that gave Leander a reputation as an athlete which

has lasted for two thousand years. Burns died young from habits of self-indulgence.*

Extraordinary mental or literary toil demand extreme temperance. Southey, a typical literary man, lived a simple, healthy life, taking a certain amount of food, then doing a certain amount of work, without the aid of stimulants. Even the poet mentioned above (Byron), though he did not act up to it himself, makes Sardanapalus say, "The goblet I reserve for hours of ease ; I war on water." Walter Scott passed a quiet, social existence, took plenty of exercise, lived moderately, and made a point of sleeping seven or eight hours out of the twenty-four.

I know, and have known, literary men of all sorts of temperaments and modes of life, and my experience is that those who do and have done the best work are those who live temperately, and take alcohol in the strictest moderation. The "three bottle men" of the days of the Regency have left their descendants a larger heritage of gout than of talent.

We physicians know well that a great number of those who find their way into lunatic asylums or end in suicide come to these states of mental aberration through neglecting to keep in proper working order, by food, exercise, and rest, the different organs of the body, the healthy action

* Poor Byron was helped to his untimely end by the lancet. When suffering from extreme nervous exhaustion, he was persistently bled ; alas for the medical skill of seventy or eighty years ago ! It killed Byron and Scott, and let the Princess Charlotte die. It has made great strides since then, and will make many more. We have every reason to be proud of its progress. Let us hope that some day dietetics will form part of the medical curriculum. It is an all-important science in the treatment of disease, but far too much neglected even at the present day.

of which is absolutely essential to mental health. The brain, we all know, is the very first to sympathize with any derangement of general health. For instance, in cases where the liver does not act properly we get melancholia, depression of spirits, and lack of energy. Where the stomach does not thoroughly digest its food, and the different organs are thereby not properly nourished, we get mental derangement and hypochondriasis that frequently culminate in insanity, more especially if the individual inherits the taint. Indeed, where there is any taint of insanity in a family, greater care should be taken of the bodily health and those factors that conduce to it than would otherwise be necessary; for undoubtedly if proper health is not maintained, sooner or later the mental powers will show signs of weakness.

I have known many cases of softening of the brain at middle age, due to the individual not being sufficiently nourished, perhaps for many years previously, with food suitable to his constitutional requirements and to his work, the mischief thus developing at an age when the mental powers should be at their best.

Every physician can recall cases of brain disease out of number that have been due to insufficient or improper food.* In the female, hysteria and other troublesome nervous diseases are often attributable to improper assimilation of food—in those of the neurotic temperament, especially where they indulge in habits of tight-lacing, or take stimulants to excess, or lead lives of excitement, entailing

* The excesses of the Commune in Paris were simply the result of the diseased mental condition of the inhabitants after the famine.

late hours and irregular meals, and so depress the vital powers. Medicines are worse than useless for diseases due to malnutrition and these causes.

The system of treating by the administration of drugs, as has been previously pointed out, such diseases as gout, indigestion, anæmia, constipation, biliousness, and numbers of other ailments that depend upon improper diet and want of exercise, is a fatal one. They are simply palliatives, whereas an alteration in the mode of life would be a permanent cure.

I do not for a moment decry the necessity of medicine in a large number of diseases, and even in the diseases that I indicate, if a person is amenable to certain rules and restrictions as well.

With regard to health and condition in old age, a different rules applies, as may be surmised. Until the close of middle age, health and condition are largely maintained and supplemented by the fact that, either in male or female, a considerable amount of exercise can be taken ; but when it is a matter of keeping the elderly in good condition, it becomes almost entirely a matter of diet. My experience is that the diet that old people usually indulge in is not conducive to their continued comfort. Elderly people require the food of energy, and require less food than the young or the middle-aged. In them there is no demand for food beyond what is necessary for maintaining the body in equilibrium. There is no surplus required for hard work, or for increasing the growth of the body ; in fact, the great thing is to keep it at a stationary weight. It seems to be the opinion of most people, that elderly people need to be constantly taking food, and that their food should

be mostly farinaceous, like the pap of their infant days. My experience teaches me that this is a mistake, and that old people really require the food that gives energy and maintains vital power, such as strong soups, fish, and meat, in much greater proportion than they are generally led to believe.*

There are no hardier or longer-lived people than the fisher-folk of our sea coast and seaside resorts, and they live almost entirely on fish, and enjoy excellent health until they become old, weather-beaten, and wizened. The tendency of excess in farinaceous food in old age is to induce obesity, and this of course in every way hampers the movements, and is a bar to enjoyment and a danger to life. It would be impossible for a person between sixty and seventy to take the amount of exercise that would rid the system of surplus fat or uric acid, if a larger supply of farinaceous food or sugar is taken than is necessary to sustain the mechanism and heat of the body *in statu quo*.

I remember three or four years ago a well-known dignitary, who had long since passed the threescore and ten of the psalmist, who by a mode of living dietetically unsuited to him became burdened with fat. When, by cutting off fat-forming

* Luigi Cornaro, an Italian, and the author of a book called "The Method of attaining a Long and Healthy Life," lived to a great age. He writes: "I am used to taking in all twelve ounces of solid nourishment, such as meat, and the yolk of an egg, and fourteen ounces of drink in a day. Oh!" he exclaims at the age of eighty-six, "how advantageous it is to an old man to eat but little! Accordingly, I, who know it, eat just enough to keep soul and body together. Of flesh meat, I eat veal, kid, and mutton. I eat poultry of every kind; I eat partridge and other birds, such as thrushes, and I likewise eat fish." Truly a sensible old man, but few would care to follow his example. Those who can engraft Cornaro's maxim on their own rational mode of enjoying life, may find the secret of prolonged and healthy old age.

food for a time, he was reduced four stone in weight, he told me, that he felt a totally different man, and that work that had formerly been a heavy burden, was now a pleasure to him.

In old age, when the nervous and muscular powers begin to flag, as has been said before, the proper food is the food that improves the tone of the nervous and muscular systems; and in spite of all that vegetarians say to the contrary, animal food is the only food that will do this, and do it with perfect safety.

It may be necessary to supplement the animal food with a slightly increased quantity of fluid, and undoubtedly a little good wine is beneficial to the aged. St. Paul, as we may surmise, would not have been a welcome guest at a temperance meeting at Exeter Hall; but he knew what was good for old people, and was not afraid to say so.

Of course elderly people are not wise in making changes in their mode of life without seeking the advice of those who make abnormal conditions of the system a study, because even a trivial mistake, when the powers of life are waning, may lead to very serious consequences. It is best to take a watch that wants cleaning and repairing to a watchmaker and not to attempt to clean it yourself; and so it is always best where health is concerned to seek the advice of a physician, because there may be weak points that should be taken into consideration; and really no man is a good judge of his own condition; he deceives himself. It is a true saying that "If a man is his own lawyer, he has a fool for a client;" and the same maxim applies to every one else, even to a medical man, who might naturally be supposed with his know-

ledge of disease to be able to prescribe for himself. But a physician, if he is ill, generally finds it best to consult a professional brother ; therefore, how much more important must it be that those who have no knowledge at all of the complex organism of the human body should, whether in those diseases due to mal-nutrition, or those due to heredity or other causes, seek the assistance of those who have made the physiology of life a study. Long life—and, still more so, healthy life—is not attained by constantly taking medicine, but it is attained by regulating the daily routine so as not to require medicine at all ; and this can certainly be done by proper diet, fresh air, and exercise, and by carrying out the simple laws of hygiene, as indicated in these pages.

CHAPTER XIII.

FOOD AND WORK.

Wear and tear—Building the house—Variety in diet—The hours for meals—Breakfast, lunch, and dinner—Afternoon tea injurious—A proper breakfast—Lunch for the active and the sedentary—A proper dinner—Time for dinner—Modern “whets”—Wine with meals—Coffee after dinner—Fluid with meals—Appetite an indication of health—Retirement from business: its effects.

THE waste of the body and the demand for food, as the result of the wear and tear of work, must naturally be compensated for by the daily intake. During the period of growth, it can be quite understood that the food should not only be slightly different in *quality*, but also greater in *quantity* than under like conditions after the body has arrived at its full development; and continued health and stamina depend upon these facts being *realized* and acted upon.

I will illustrate my meaning in this way. In building a house it is necessary, in the first place, to find the stone, wood, iron, bricks, and all the multitudinous materials employed in its structure. The architect and builders design and carry out the construction, and it is completed in every detail. Once this is done, it will never be necessary to

bring all these materials again to the edifice. All that will be necessary will be to repair the breaches as they occur, and to keep the building in proper condition. If this be done, in the ordinary course of things it lasts for many years.

Much the same argument may be made to apply to the human body. When it is finished building, that is, when it has arrived at full development, it is simply a matter of food and care, to keep it in healthy and working order, and on this depends its withstanding the different influences, that are constantly at war with the structure, until its ultimate decay and destruction in the common course of nature.

The food therefore in daily life has to be apportioned to the requirements of the system, and to the exigencies of work, whether it be mental or bodily.

Amongst civilized people, habit, occupation, and mode of life always cause the diet taken to vary considerably both in quantity and quality, and great latitude is allowable in this respect, without its leading to derangement of health; but, after all, there are certain foods and certain fluids that are absolutely necessary for the proper repair of the body.

In the case of the floor of a house giving way, it would be no use attempting to repair it with plaster; or if the outside wall had begun to bulge, to hope to support it by painting it over.

Each structure of the body, if it shows signs of failure, should be treated with that particular line of diet, to repair it, that is best suited for the purpose. Of course, under ordinary circumstances, the daily menu contains, in fair proportion, the ingredients for the purpose, but this, however, is

not always the case ; and where it is not the case, sooner or later, the economy shows signs of want of proper nourishment, of the kind that it more particularly requires ; if it does not get it, the result is that disease obtains. In this case, of course, the proper plan is for the individual, whatever the ailment may be, to seek the guidance of those who are best qualified to advise, so that they may discover from what cause the mischief is arising, and map out the best course for the sufferer to adopt. As I have previously pointed out, three-quarters of the diseases that occur between the ages of twenty and sixty are due to improper food and a faulty mode of life in different ways.

The custom with regard to meals varies considerably in different countries, but whatever the hours are, they should be carefully regulated with regard to time. Carelessness as to the times of meals is one of the most frequent causes of many troublesome ailments—*indigestion*, more particularly, so that it is most desirable that meals should be taken at regular hours, and that five or six hours should elapse between them. The most healthy mode of life is undoubtedly to take during the day only three meals, viz. breakfast, lunch, and dinner. The breakfast should be taken between eight and nine, lunch between one and two, and the dinner between seven and eight, and no food should be taken between meals.

The present institution of afternoon tea, with bread and butter and rich cakes, is a very bad one, and is accountable for a great deal more derangement of the digestive organs than people are apt to imagine. There is no harm in a cup of

plain tea with milk or cream an hour or two before dinner, if much work has been done during the day, but no *solid* food should be taken with it.

With regard to breakfast, the amount of food should entirely depend on the work or occupation of the individual and his position in life. For instance, the indolent man or woman whose morning is occupied in reading the papers, or the latest craze from the circulating library, should take a light breakfast ; but the man who is going to do hard mental or physical work should begin the day with a substantial meal, which should undoubtedly consist of tea or coffee, milk or cream, dry toast with butter, and meat or fish of some kind. This will supply nourishment for every requirement of the body, both mental and physical.

In the case of the indolent man, a large lunch may be taken, for if any work at all be done by such, it is done during the few hours of the middle of the day, and therefore this kind of meal suits best ; but in the case of the man who requires a clear brain for literary or office work, the lunch should be a very slight meal, such as a small slice of mutton and vegetable only, or a sandwich and a little salad, or a sandwich biscuit and cheese with a little light wine and water.* In that case a cup of afternoon tea is compatible with comfort. The next and principal meal of the day should be at seven or eight o'clock. This meal can be varied according to the circumstances and mode of life of the individual, but undoubtedly it is always the best plan to begin dinner with a little good soup. This invigorates the nervous system and increases the

* Blatchley, of 167, Oxford Street, makes for my purposes Meat Cracknell Biscuits, which are useful in the case indicated.

appetite and gives the necessary stimulus to the enjoyment of the meal.

The modern whets, in the form of caviare on toast, anchovy on toast, kippered salmon, and so on, before commencing dinner, is a huge mistake, and the practice of taking spirits in the form of gin and bitters and other compounds as an incentive to appetite shows a thoroughly depraved state of the stomach and nervous system.

The present-day method of taking a large number of different dishes for dinner is neither conducive to enjoyment or to health. A proper dinner should be well cooked, and should consist of soup, fish, a joint or *entrée*, stewed fruit or sweets, and, if desired, after this biscuit and cheese. This should be washed down by a light wine, diluted, if preferred, with some aërated water. To drink strong wines such as sherry with meals is a grave error. If the necessity for such exists, it had better be taken after the meal is over. It is also a great mistake in those who desire health and sound sleep to take stimulants on going to bed. They induce sleep for a short time, then, as a rule, unusual wakefulness, which persists for hours. The practice seems to be one that has become almost universal, but it is not one that conduces to health or length of life.

Where the hour of retiring is late, and the dinner is at seven or eight, a cup of coffee after dinner, or a cup of bovril and a biscuit an hour before bedtime is a far better means of procuring good sound sleep than the adventitious aid of stimulants taken for this purpose.

With regard to fluid, as much may be taken as the individual himself desires. Harmless fluid is

beneficial in every way. Three to five pints of fluid is about the proper quantity for an adult during the twenty-four hours. In old age, the wants of the system are smaller, and it is a mistake to think that old people are better for being well crammed. This custom obtains, we know, but it is founded on error. The proper food for the old (so far as my experience as a dietitian is concerned), and certainly the food on which they enjoy the best health and energy, for the longest period, is one that consists of a considerable amount of animal food in the way of soup, fish, meat, poultry, and game, and fat.

Excess of farinaceous food is apt to become stored, and to lead to corpulency, which is not a desirable condition at any time, but is more especially detrimental when the strength and ability to carry about a superfluous load of adipose tissue is passing away.

In a healthy system there should be a healthy appetite for breakfast, and if this is not the case, it means that there is something wrong somewhere. Failure of appetite for breakfast as a rule betokens over-indulgence on the previous night or the beginning of intemperate habits, in which case the stomach requires the stimulant that is habitually indulged in, before it is ready for its more proper and natural food, and it is certain, if this is the case, that life will not last long unless these habits are broken. The individual who begins the day with a good appetite and makes a good breakfast may be fairly considered to be in good physical condition. Work of some kind or other is an absolute necessity to healthy and long-continued life. The man who retires from business at middle

age, having made a competency by active work, seldom lives long to enjoy it, if he subsides into an existence of indolence and ease.

I know no more fatal bar to health and long life. Some occupation should be cultivated that gives the constitution the stimulus it misses. The flow of nervous energy must not be stopped, but diverted into other channels. Both mental and physical health depends upon this. In such cases, where sedentary habits are associated with good living and excess, obesity, fatty degeneration, accumulation of waste matters in the blood, indigestion, gout, gravel, sooner or later follow, though not always together, for impaired nutrition may induce nervous debility or emaciation, and one evil may follow on another.

CHAPTER XIV.

EXERCISE.

Exercise and rest—Importance of exercise—Its action on the muscular and nervous system—On the heart—Evils of excessive exercise—Examination of heart—Effects of exercise on the skin—On the lungs—On the blood—Walking, effects of—The Black Hole of Calcutta—Daily exercise, amount of—Foot tons, meaning and equivalent of—The limit of exercise—Evils of insufficient exercise—Exercise and brain development—Riding exercise—Rowing—Golf—Cycling—Lawn tennis—Gymnastics—An artificial horse—Exercise in obesity—The Turkish bath—Massage—The bath, its benefits—Perspiration, amount of—Influence of exercise on digestion—Rhythmical effects of exercise.

TWO important factors in the preservation of health are exercise and rest. Indeed, as I have pointed out before, adequate exercise is an absolute necessity to the enjoyment of robust health, and for this purpose it is essential that no article of dress should impede the free play of the chest, or the different muscles brought into requisition during exercise.

There is no organ or tissue in the body that is not influenced by this, and the beneficial effect of exercise lies in its power of clearing the system of waste that would not otherwise be disposed of. This is essential for continued health.

Exercise increases and strengthens, not only at

the time, but permanently, the action of every organ of the body. Of course, it is important that exercise should be strictly regulated by strength, and violent exercise suddenly commenced is never desirable. In those of literary or sedentary habits, especially when youth is over, or where the weight is above the normal standard, exercise at first should be regulated and gentle, and should be increased day by day, as the heart's action strengthens and the breathing becomes freer. In this way the muscular system becomes toned, the flow of blood through the muscles being increased in quantity, and purer in quality.

Every one knows, or ought to know, that exercise increases the heart's action, and this is followed by corresponding depression. The heart's action indicates correctly whether increased exercise is beneficial or not. Increase in its frequency and force is natural, and so long as there is no irregularity in its beat, or oppression at the chest, it is beneficial ; but irregularity of, and inequality in action shows over-taxation. In this case, it is a warning that, until the heart and muscular system is *toned up*, the exercise should be curtailed.

I have before pointed out the desirability of every one occasionally undergoing an examination as to the state of the heart. Especially is this desirable before the hunting and shooting seasons commence, or before the annual holiday. Many a most untoward case of sudden death would be obviated if this were done. This particularly applies to those whose occupation, up to that time, has been sedentary, or whose mode of life induces a large accumulation of waste in the system, in the shape of fat, or gout poison, or other products that

prevent free and unimpeded action of the heart and lungs.

Exercise stimulates those organs that would otherwise be sluggish, inactive, or torpid, by rapidly circulating the blood through them. As they derive their stimulus from the blood, its influence in this way is paramount.

Take, for instance, the action of that most important organ to health, viz. the skin. We know that exercise greatly increases the action of the skin, and by means of perspiration relieves the system of much that is poisonous. It is a well-known fact that if an animal is tarred all over its body, death soon takes place, and this from the fact that the skin no longer fulfils its functions. Of course, in good health and condition, the skin always acts, to a certain extent, but it does not do so to the extent of clearing the system of those poisonous products that indirectly are destructive to life ; for this purpose it wants the stimulus of exercise.

Under the stimulus of exercise, the action of the skin is enormously increased, and the result is that it forms an outlet for products in the form of carbonic acid, and other effete materials that require eliminating from the system.

Another important benefit of exercise, especially in the fresh air, is its influence upon the body, in the elimination of food that has done its work ; not being further required in the processes of digestion and nutrition ; and of tissue that the system has done with—*débris* of muscle, nerve, etc. This taken up by the blood current is carried to the lungs, to be there chemically decomposed and eliminated from the body by the breath.

Under ordinary circumstances, at rest, an individual breathes four hundred and eighty cubic inches of air per minute. This is enormously increased as the result of exercise. In walking at the rate of four miles an hour, the amount of air inspired will be five times as much, that is, two thousand four hundred cubic inches in the same time. Now, one of the elements, the elimination of which from the blood is most important, is the carbon, and the amount of this exhaled under exercise and rest may be explained in this way: A man at rest respires each hour twenty-seven cubic feet of air. During this time he takes in 416 grains of oxygen, and, as a rule, exhales, during the same period, 603 grains of carbonic acid, or 164 grains of carbon. During exercise in the same period, sixty-four cubic feet of air are exhaled, and therefore 1829 grains of oxygen are taken into the lungs, and 2501 grains of carbonic acid, or 682 grains of carbon, are expired from them.

If exercise be not taken, this waste accumulates to a great extent in the system, which becomes much in the state of a foul chimney choked with soot. Where this latter is the case, every one is familiar with the fact that the fire in the grate never burns brightly. When the system is in a similar state, there is dullness, heaviness, and lack of bodily and mental energy. The awful effect of stopping the lungs as an outlet for the impurities of the body, is illustrated in the history of the Black Hole of Calcutta. Into a subterraneous prison, called the Black Hole, a place about eighteen feet square, almost destitute of ventilation, an Indian Prince forced one hundred and forty-five British subjects. History tells of their dreadful agonies, how they

fought and prayed and cursed during the long night, and then when morning came, how only twenty-three living beings came out, most of these being mad or dying; indeed most of them subsequently perished of what physicians of that time called "putrid fever," suffocated in a few hours by the retention within their own bodies of poisons that, under such circumstances, had no outlet.

It is a difficult matter to determine what amount of exercise should be taken daily by an adult, because so much depends upon the temperament, mode of life, habit and occupation of the individual; but taking the human body at the age when it has reached its full complement and strength in every particular, the age at which the soldier is fittest for service, the labourer for work, and the artisan for his respective duties, we may say that, if it were represented by walking exercise, it would be to the extent of eight or nine miles a day. Naturally a good deal of this may be done during work, and therefore it does not leave so much to be done as a matter of duty. Professor Haughton has calculated that walking on a level surface at a moderate pace, is equal to raising the twentieth part of the weight of the body through the distance walked. Considering that the most healthy life is that of a man engaged in manual labour in the open air, and that his daily work will probably average from two hundred and fifty to three hundred and fifty tons lifted one foot, we may say approximately that every healthy man ought to take a daily amount of exercise that will be represented by the labour of lifting not less than one hundred and fifty tons, one foot.

If we take a man weighing, say, a hundred and fifty pounds, and calculate this on the above basis, the exercise of walking one mile in his case would be equal to lifting seventeen tons and a half, one foot. The exercise of lifting a hundred and fifty tons one foot would therefore be equivalent to walking from eight to nine miles.

We are now dealing with men who are living under ordinary conditions. If it were necessary that a greater amount of exercise than this should be taken, or work done, a greater amount of food could be taken and digested, for this particular purpose, without harm; for food and work have a direct ratio to one another. It may not be generally known that a convict in prison doing hard work, say, in the quarries at Portland, is fed differently to the convict doing sedentary work, say, in a tailor's shop there. If the food were not adapted to the work, there would be not only loss of flesh, but the fatigue induced would soon lead to collapse.

As a matter of course, the amount of exercise necessary for fair health is far short of that which may be undertaken within the limits of health, and therefore many occupations in life differ widely in the degree of exertion that they entail. Some of these fulfil all the conditions of healthy exercise, and as a matter of course, where they do this, it is not necessary that persons so circumstanced should trouble much further in the matter. It is more especially with those whose work is sedentary that certain rules of health should be cultivated and obeyed, without which good health is impossible.

By laying down rules in this direction for a

sedentary life, physical strain is reduced and excess of change in tissue prevented. The want of the elimination of waste products from the system through lack of proper exercise leads to disturbances of health that are often serious, and that naturally prevent the individual from enjoying life to its full extent. Added to this it also prevents him being as useful as he otherwise might be in carrying out his occupation in life with the energy that perfect condition gives. A want of exercise in the sedentary often leads to irritability, where there should be cheerfulness, and to the development of the obese, gouty, bilious, and other unhealthy types of constitution. The reason for this I have previously pointed out.

It is not only the bodily health that suffers from want of exercise, but the mental health may also be impaired, for naturally without robust bodily health there cannot be proper mental health. There is no more cheerful person than he or she who is constantly in the fresh air, and therefore as a rule simultaneously taking exercise.

The benefit of this, and its influence in youth in developing the brain, is now recognized in large schools, and athletics form an established part of the school curriculum. This is undoubtedly a move in the right direction, and one that will influence beneficially the health of the rising generation. A parent would do well, in sending a boy or girl to school, to see that athletic exercise or calisthenics are regularly introduced.

The happy-go-lucky cheerful disposition of the sailor, which is proverbial, is due to the bracing effect of the fresh air, pure as it is and full of ozone, that he is constantly inhaling; and the

healthy, jovial appearance of the countryman, if he is properly fed as well, contrasts favourably with the pale, pasty complexion that characterizes the inanimate, listless denizens of our large towns.

Of course the form of exercise that should be indulged in, depends on the time of life, occupation, and habits of the individual. The most beneficial of all is undoubtedly riding on horseback, as this brings into play almost every muscle in the body, and this is the great desideratum in this case. Exercise to be beneficial should be brisk. It should induce perspiration.

That which only calls into play certain muscles and organs does not greatly benefit. Riding stimulates the action of every organ, as it circulates the blood more rapidly and increases tissue change. The pressure of the abdominal muscles stimulates the liver into action. The exertion entailed excites the skin into performing its functions, and by quickening circulation stimulates the kidneys, and in fact every other organ of the body into healthy activity. The muscles themselves increase in bulk and contractibility under the stimulus of exercise; they become more corky and elastic, and capable of sustained work. Exercise of this kind, *i.e.* riding, is only within the reach of certain people, but every one who can, either by way of occupation or of pleasure, indulge in horse exercise, will benefit by it. Those who cannot should adopt other means of obtaining the same end. Walking—and this is within the reach of all—should be brisk to be of any service; pottering about a warehouse or house or garden is of little use; this may be considered work, but it is not exercise.*

* A substitute and imitation of horse-exercise is now obtainable.

All forms of recreation are beneficial—rowing, golf, cycling, cricket, football, swimming, lawn-tennis, ball games, gymnastics, and calisthenics—and all have their votaries. The great thing, of course, is to acquire the habit of taking exercise in early life, so that it shall be continued in adult age and become a part of the individual's existence. It then continues to be a pleasure and becomes second nature, and is carried out in some way or other through life. I have known men of eighty more active than others of thirty.

Exercise in youth may be in the form of some of the more vigorous ones, such as football, hunting, and cricket; and to a certain extent these may be continued with safety up to middle age. When middle age is waning, exercise should be taken in some other equally pleasant manner, though in a less violent way, such as gentle riding, walking, rowing, billiards, games of skill, and so on, increasing it from day to day as fatigue lessens and the stamina of the constitution increases. This is sustained in such cases, if no serious and unavoidable disease occurs, for many years.

If the habit of exercise be not cultivated, it becomes harder, at the time that it becomes more necessary to take it, to prevent the accumulation of fat and other forms of waste in the system, which otherwise in those of epicurean tastes naturally goes on increasing as age creeps on. Indeed, one of the greatest evils of obesity is that it interferes with the sufferer taking proper exercise and therefore prevents the enjoyment of robust health, and as time

This may be seen at 21, Baker Street, Portman Square, London. The different actions of the horse, cantering, trotting, galloping, are imitated and are within the control of the rider.

goes on and the obesity increases, there is less and less ability for wholesome exertion. To enjoy rational exercise consequently becomes more and more difficult. How often do cases not come under observation, of people who are hampered with fat, who complain of the difficulty they have in taking sufficient exercise to prevent constipation and the other ailments due to the lethargic habit of body that obesity induces? When such people lose three or four stone of weight by proper dietetic treatment, on food that strengthens the muscular and nervous systems, and burns up the fat, how vastly their energy and power of taking this is increased, and how they find a pleasure in what was formerly distasteful!

Of late years a kind of substitute for exercise has been found in Turkish baths. These, where they agree, by inducing free perspiration, clear the system of much waste, but they do not *reduce fat*, though they are often carried to too great an extent for this purpose, or improve the tone of the system; indeed, carried too far, they are enervating and even dangerous.

Massage has recently been in great repute, especially among ladies of lethargic and obese habit of body, and as a substitute for exercise in those who are unable from accident or disease to take a proper quantity, it is undoubtedly beneficial. Of course massage is a very poor substitute for healthy outdoor bodily occupation, but it is better than none. It stimulates to a certain extent different organs into action and increases the muscular tone, but it does not very much assist in the elimination of waste. It is useful mechanically in sluggish liver, constipation, and other diseases

due to languid circulation and general want of tone. For those who for some reason or other are unable to take exercise, I advise the use, for a quarter of an hour night and morning, of the "Massage Rubber,"* a new and an excellent appliance in such cases. This circulates the blood rapidly, and brings it to the surface, and is undoubtedly exceedingly beneficial in cases of languid circulation, and in those who cannot take sufficient active exercise. Indeed, I think it is useful generally, as it tends to clean the skin of scurf that clogs the pores, and stimulates it into action in a way that perhaps exercise does not do. As this appliance should be used by the person him or herself, it is much more effectual than massage done by others, as this latter entails no exertion at all; indeed, massage is the *recourse* of the idle and luxurious.

While on the subject of exercise, it would be well to say a few words on the bath. The effect of exercise in any form is of course to stimulate the action of the skin, and therefore as the perspiration consists, when it dries, of solid particles and fat, it remains on the skin undergoing decomposition, and becoming highly acid, and naturally causing considerable irritation. The action of the bath, especially the cold bath to those who have been accustomed to it, is undoubtedly of great service, and the daily morning tub is an important adjunct to health; but for the purpose of cleaning the skin from the solids and fat of perspiration, the bath should be supplemented once or twice a week by a thorough soaping and rubbing with a

* This appliance, the invention of an architect, may be procured of any chemist, or at the Army and Navy Stores, or of the inventor, Mr. E. Crutchloc, Albert Chambers, Victoria Street, Westminster.

rough towel. The products that would otherwise clog the pores of the skin and prevent its healthy action are thereby removed.

The amount of perspiration passing out of the system in each twenty-four hours amounts on the average to twenty-three ounces, and this contains solid constituents in the shape of fat and salts weighing one ounce. This elimination of waste by perspiration is enormously increased by active exercise, so the necessity of the daily bath and ablution as an adjunct to health becomes apparent.

Food in its relation to exercise and health will be further touched on in those chapters devoted to conditions due to excess of and improper food.

One of the commonest ailments that come under observation as due to want of exercise is indigestion, and as a result constipation. In fact, it is a rare thing to find a sedentary man who does not suffer from these ailments, and of course it is an equally rare thing to find him taking the correct means of getting rid of it, namely, by proper diet and exercise. The unfortunate victim of indigestion, from want of exercise, is always dosing himself or being dosed with medicine, and therefore he is *always a victim*, and his health is impaired and his nervous system wrecked by a state of affairs that would be easily curable if he went the proper way to remedy it. I find that indigestion is better treated by proper food, and by a properly apportioned amount of exercise, than by medicine, and during the last twenty-five years I have had very considerable experience of both systems. In the one, by medicine, indigestion is simply palliated; in the other, by diet and exercise, it is permanently cured—that is, assuming that the individual remembers his

weakness and does not indulge in a *debauch*, and thereby start an attack again.

A man who takes exercise can digest food both in quantity and quality that the sedentary man cannot, and therefore if a man who is fond of good living does not wish to injure himself, there is only one way of accomplishing this end, namely, by taking plenty of fresh air and active outdoor exercise. The human body is an extraordinary piece of mechanism, and one organ re-acts upon another. If the system is not kept well toned up there is a sluggish action of the organs that nourish the body, and as these lose tone all other organs lose tone with them, and they go wrong together. I have seen cases of utter collapse, mental and physical, from this cause, among men of sedentary occupation, where as a result a three months' complete rest in the Riviera has been necessary to restore to health the functional derangement of the heart and prostration of the nervous system that have ensued.

The victims of this distressing state of affairs are found principally among barristers, lawyers, literary men and women, and city men, who have *no time* (!) to attend to such trivial (?) matters as obedience to the dictates of nature and simple rules of health.

The Nemesis, that *dereliction of duty* in this respect entails, follows swiftly with inexorable stride, and the day of reckoning is certain and heavy.

CHAPTER XV.

WINES AND OTHER BEVERAGES.

Virtues, etc., of alcohol—Alcohol admissible, when—Dr. Pavy on wine—Disagreement about wine—Alcohol as a poison—Alcohol in relation to state of health—Fusel oil—Effect of age on alcoholic liquors—Adulteration—Cheap new wines dangerous—Colouring—Alcoholic strength—Flavour—Fermentation—Famous vineyards—Blending—Names of wines—Imitating flavours—Spanish wines—Other wines—Good wine—Quantities that may be taken—"Proof spirit," table of strength—Tannin in wines—Wines for the gouty, bilious, etc.—Action of champagne—Famous brands—Free from sugar—Tonic properties of ales, etc.—Clarets—Other stimulants, such as tea, coffee, cocoa—Making tea—Modes of drinking tea—Coffee, its beneficial effects: how to make—Water—Uric acid—Drinking waters—Infectious germs—Hamburg cholera—Safest waters.

THE evils of alcohol have been pointed out in a previous part of this work; now as to its virtues, if it has any. To the man who works hard, or takes plenty of exercise, and is in robust health, alcohol, in *any* of its forms, is admissible, and from the earliest ages of the world, instinct or appetite seems to have taught us that, to a certain extent, it adds to the sum of human happiness. I naturally start on the assumption that it is taken when the mental and physical powers have arrived at a state of full development. Under these circum-

stances, alcoholic stimulants may be imbibed without harm, whether in the form of spirits, wines, or ales and beers, etc. "A good wine," says Dr. Pavy, "promotes appetite, exhilarates the spirits, and increases bodily vigour." But, alas! doctors disagree, and others equally famous deny its possessing any virtues at all, and look upon it as an insidious poison in every form. Perhaps the safest plan is to steer the middle course, and admit that, in moderation, it certainly adds to the happiness of many, and can do no harm, but that in excess it is a poison, and the greatest curse ever inflicted on man.

So much for alcohol in general.

What it is desirable to point out, however, is the best form in which it may be taken by those who are *not* in a perfect state of health, as for instance those who are victims of obesity, gout, biliousness, indigestion, and other derangements from sound condition.

In the first place, we will deal with alcoholic liquor in the form of spirits. In this case it is most imperative that care should be taken that the spirit drunk is matured, and free from fusel oil. That means that it is matured by *age*, and not recently distilled. In this case, the individual puts his health in the hands of his wine merchant, and he should employ one that he can trust. All spirits that are made from the grape, or from sugar, are free from this product, and therefore the best alcoholic stimulant is either good brandy or rum. Spirits made from grain or from potatoes of any description, such as the commonest brandies, whiskies and gins, when *new* are undoubtedly most poisonous, from the large quantity of fusel oil they contain. Age

decomposes this, while it improves the pure spirit, both in flavour and aroma.

Large quantities of potato spirits are imported from Hamburg for adulterating higher class spirits, and more particularly for fortifying wines, the result being that these wines are exceedingly heady. In fact, it may be taken for granted that cheap and new wines and spirits are poison. New wine, indeed, is highly intoxicating, to almost a dangerous extent. This is due to the presence of aldehyde, which, however, as the wine becomes older, is oxidized into acetic acid.

Wine, as is well known, is the fermented juice of the grape, and is made both from red and white ripe grapes. In the manufacture of white wines, white grapes only are used, and the expressed juice is strained before it is put to ferment. The colouring of the red wines comes from the skins of the black and brown grapes. "The natural wines, which are characterized by sweetness, are of low alcoholic strength, for in proportion as sugar is retained, so is there a diminished production of alcohol. Sweet and strong are therefore irreconcilable qualities in a natural wine, and if combined imply the existence of added spirit." During fermentation, a part or the whole of the sugar is converted into alcohol, and the flavour arises from acids and ferments, the characteristic bouquet depending upon climate and soil. Where this fermentation is allowed to run through, the wines are known as dry wines, but where it is arrested before this process is complete, the wines contain a certain amount of sweetness, and bottled at this stage are known as sparkling wines.

The alcoholic strength of *pure* wine never

exceeds fourteen per cent., as beyond this stage fermentation is arrested, and therefore all wine of an alcoholic strength above this has been fortified for the English or other markets. Sherry, port, and Spanish wines, have always spirit added to them. This, of course, would not matter materially, if the spirit were good and pure, but unfortunately this is by no means always the case, and for this reason the cheaper wines are injurious. No sensible person will drink cheap wines; if he cannot afford to pay a good price for a good wine, he had better drink the humble but exhilarating bitter ale.

The wines of famous vineyards, whether white or red, are manufactured with great care, and naturally fetch a high price. They are carefully blended by hereditary wine tasters, and are generally classed as first, second, or third quality. The name of a wine is no guarantee that it comes from any particular vineyard; and such wines as St. Julien, St. Estephe, Chateau Margaux, etc., may be perfectly innocent of ever coming from those famous vineyards. The peculiar flavour of these wines can be imitated so as to pass for the genuine article, except to the palate of a connoisseur. The art of chemically flavouring wines is now carried on at Chte, which place bears an unenviable notoriety in this way, and the art has attained a surprising degree of accuracy. The flavour of Chateau Latour is made by adding nuts and almonds, and Chateau Lafitte by adding almonds and violets to ordinary Bordeaux wines. Wine is sweetened and flavoured to suit the palate of the inhabitants of the different countries it is sent to. Champagne is sweetened and fortified for the

English market. It is sweetened still more for the Russian. Great firms retain a stock of choice wines for blending, so as to continue from year to year the original flavour and strength.

Spanish and Portuguese wines are known, with very few exceptions, as port and sherry, and this from whatever part of the Peninsular they may come, though the grape juice is often collected from the different countries adjacent. Australian and Californian wines are rough, but, as time goes on, may improve. They are suitable to those of very strong digestion. A good wine is one in which the properties and flavour are perfect, and in which the alcoholic strength, the sweetness, astringency, or acid, is not too marked.

Moselles, vintage clarets, and the finer Rhine wines, afford perhaps the best examples of this. In the wines from Spain, and in the different brands of champagne, sugar is added, so that naturally these wines are not suitable in certain conditions of the system, as will be further explained later on.

As the quantity of any alcoholic stimulant that may be taken under ordinary circumstances with safety depends upon the *amount* of *alcohol* it contains, the following table will enable the reader himself to gauge the quantity he can take with impunity of any spirit, wine, or beer; and here let it be distinctly understood, that the extreme limit of absolute alcohol that may be taken daily is *one ounce and a half*, that is, he may take one ounce and a half of absolute alcohol.

In England, at the Custom Houses, they gauge the alcoholic strength of the different spirits as "proof spirit," and proof spirit as such con-

sists of $49\frac{1}{4}$ parts of alcohol to $51\frac{3}{4}$ parts of water.

In the following table, the percentage is given of "proof spirit," so that it really represents approximately half these amounts of pure alcohol.

	Natural State.						Fortified for the English Market.
Sherry	27	...	...	...	...	...	35
Port	23	...	...	...	...	...	35
Claret.....	17	...	...	...	...	...	20
Hermitage.....	22						
Rhine Wines.....	21						
Hungarian Wines.....	21						
Rhine Wines Red.....	20						
Moselles.....	24						
Tokay.....	24						
Sparkling Wines and Champagne	22	...	...	...	...	...	26

Wines that are highly astringent are to a certain extent injurious, for the tannin contained in them is not a beneficial property, especially in those troubled with constipation. This applies to red wines, such as claret, Burgundy, and port, and to their use in certain states of the constitution.

Now with regard to wines suitable in various deranged conditions of the system. The effect of port, and indeed of all sweet wine, in inducing gout, is well known, and therefore the sufferer from gout should under no circumstances drink a wine that contains either sugar or tannin. The combination of sugar and alcohol, in all its forms, seems to have a peculiar tendency to induce gout. The same naturally applies to malt liquors, such as beers and porter, and to cider and perry. The proper wines for the gouty are the light dry Moselles, Rhine wines, and the wines of colder countries, where the fermentation has run through. Clarets are not good wines in this case, as their constipating action

is injurious. For the gouty, the bilious, and those with a tendency to corpulency who wish to take alcohol, I always advise it in one or two forms, that is, either in spirits, in the form of well-matured whisky taken with an aërated table-water, or in the form of dry Moselle wines, such as Aldous of Hatton Garden, London, has procured for my purposes. These, I find, always suit such patients best.

The injurious action of ordinary champagne depends upon the same cause, viz. the supplemented sugar. Champagnes for the English market having a certain amount of liqueur—a syrupy essence compounded of sugar, brandy, prime juice, etc.—added. These liqueurs are the secret flavouring of different houses, and each brand of champagne has its peculiar characteristic. Some prefer the old-established brand of one firm, and some of others, and so on. The names of certain firms who manufacture high-class champagnes are household words. The house of Moët and Chandon has been in existence over a hundred years, and has a world-wide reputation. Even Napoleon the Great is said to have visited their cellars. The demand of late years for a perfectly dry champagne, has been fostered by dietetic requirements, and now wines that are quite suitable even for the gouty, the obese, the bilious, and the dyspeptic may be procured. These are natural wines of exquisite flavour and bouquet, and no doubt will be highly appreciated by epicures and *bon vivants*, who seem to think that life without champagne is not worth living. I have taken a deal of trouble in this matter, as it is absolutely essential for my purposes that champagne, when I allow it, as in the corpulent

and the gouty, etc., should be absolutely free from added sugar and perfectly fermented. One I have had analyzed lately meets this requirement. It is perfectly free from this product, and contains only the smallest trace of glucose, not sufficient to be of the slightest consequence in any case. This wine is imported by Lacaze, Rousseau and Co., of Epernay, and of 93, Shaftesbury Avenue, London, W. I mention this particularly, as I have no doubt that many will be glad to know that it is possible to get a sparkling wine, and to get it in such a form as to satisfy the most fastidious palate. Wines of this class seem to have a more exhilarating effect than others, and they certainly agree better with many, the carbonic acid they contain being very useful in its sedative effect on the stomach, while at the same time the wine exhilarates the nervous system.

With regard to the alcoholic strength of ales and beers, the ordinary Burton ale contains about ten per cent. of "proof spirit." Edinburgh ale six per cent. German beers contain less alcohol than English, but are richer in carbonic acid, and less bitter. Bavarian beer contains about four per cent. of proof spirit. The tonic properties of ales and beers depend upon the hop, which is a bitter, though other wholesome tonics are, no doubt, added, such as gentian, quassia, and calumba, and there is no reason why they should not be as harmless and as beneficial in promoting appetite as the hop. Bottled ales of all classes are bottled before the fermentation has subsided, and to this they owe their sparkling character. Ales and beers are not only exhilarating from the alcohol that they contain, but nourishing, from the amount of starch and sugar that they draw from the malt,

from which they are made. Of course, beer, stout, etc., are unsuitable for gouty, rheumatic, dyspeptic, and bilious subjects. Those who take them must naturally expect to be punished by more severe attacks of these ailments. To the ordinary healthy person, doing a fair amount of physical work or exercise, they are useful and invigorating. One pint and a half of sound ale or stout contains an amount of alcohol that under these circumstances is not injurious.

Clarets are entirely unsuitable to those who suffer from constipation or indigestion. If such people indulge in stimulants at all, it should be in the form of brandy or whisky, well diluted, or some of the light dry Moselle wines, or the dry champagne previously mentioned.

Spirits should be matured and pure, for the by-products of the fermentation of starch are a great deal more poisonous than alcohol. Indeed, the valetudinarian places his health and his very life in the hands of the dealer he buys from. The injurious products of the fermentation are, however, destroyed by age, so that the safest spirits are those that have been many years in bottle or cask, and in this case, naturally, the price is enhanced. But the consumer who avoids cheap spirits and doctored wines, saves a doctor's bill and his own health.

Perhaps it may be advisable to say a few words here with regard to other stimulants in the shape of tea, coffee, and cocoa. Tea, properly made, in moderation, is undoubtedly restorative and stimulating in action, and is useful in over-fatigued conditions of the body. In these days, tea is almost a necessity, and may be taken once or twice a day by almost all classes, with impunity, and with

benefit. Beyond this, it is injurious. The value of tea, in a great measure, depends upon the country it comes from, and then how it is made. Ordinary healthy people may possibly use and digest any tea, but there are certain peculiarities in the constitution of some people, that make certain teas, to them, simply poison. This applies, more particularly, to the Indian and Assam teas. Such teas used by those of weak stomach and over-taxed nervous system, cause flushing of the face, throbbing at the temples, a sense of fulness in the head, and other symptoms of deranged nervous action. In this case it is advisable to take the liquid only once a day, and carefully infused, or to try the more delicate kinds, such as the Ceylon.

The Indian teas are very rough, strong, and full of tannin. The characteristics of Chinese teas are well known, but of recent years Ceylon tea seems to have grown more in public favour, and undoubtedly those who require one that does not contain a large amount of tannin, will find Ceylon the best. In those suffering from indigestion and constipation, Ceylon tea should be used, and no other.

It seems like slaying the slain to teach people how tea should be made, but it is very seldom that it is properly made. Tea should be allowed to infuse no longer than eight minutes, and it should be made with water immediately it boils. A little boiling water should be poured into the teapot to heat the vessel before the tea is put in. Then the *whole* quantity of tea should be made at once, not a small quantity of water poured over the leaves, and then more gradually added as it is used up. When tea is infused too long or boiled, the tannin

and other ingredients, even of the best tea, is drawn, and it not only becomes bitter and unpleasant to the taste, but it becomes indigestible and poisonous. No one should drink tea more than twice a day, and those of gouty and dyspeptic habits should sweeten it with saccharin instead of sugar. A little cream or milk may be added, if desired. The Chinese drink tea in a pure state. The Russians take it with lemon juice, the Germans flavour it with rum, cinnamon, or vanilla. In England we know it is customary to add cream or milk and sugar, but for corpulent people the Russian mode would be best.

Ceylon tea is naturally much mixed with other teas, such as Chinese and Indian, but those who wish to procure *pure* Ceylon tea can do so from the Agra Tea Co., 76, Shaftesbury Avenue, and 2A, The Crescent, Putney, London, W.

Coffee, like tea, is an invigorating and stimulating beverage, and fully justifies the estimation in which it is held. It is more heating than tea; while at the same time it arouses the mental faculties to wakefulness, and obviates depression. Coffee is especially useful to those who suffer from a redundancy of fat, as it has the power of relieving the sensation of hunger and fatigue, and may be used three or four times a day as a beverage. It exerts a marked sustaining influence under fatigue and privation, and husbands the strength where a restricted diet is necessary. To make the infusion properly, two ounces of freshly ground coffee should be used to each pint of water. There are numerous ways of making coffee, but it is a beverage seldom tasted in perfection. The great secret lies in infusing it so that the liquor contains none of the

grounds. For this purpose it should be strained through a flannel bag, or made in a perculator.

Water, in some form or another, is a necessity of life ; it is necessary as a food, and fills various important purposes in the economy. It forms the liquid of the secretions, and thereby the medium for dissolving the digested food, and enabling it to pass into the system, and the effete products to pass out in solution. The quantity required for drinking purposes bears a relation to the climate and to the occupation of the individual. Thus a man weighing a hundred and fifty pounds (ordinarily a man of 5 feet 7 inches) would require about three pints and three-quarters ; of this about one-third is taken in the food, the remaining two and a half pints being required as drink.

In some conditions of the system fluid is more necessary than in others, as, for instance, in the gouty. Uric acid requires two hundred thousand times its weight in water to dissolve it, and therefore in such cases water should be taken freely in the form of some sparkling aerated water. During hot weather naturally more fluid is necessary. It may seem a startling assertion to make, but there are more people killed by water than by alcohol, in all its various forms.

Drinking-water from wells, rivers, and such sources is very apt to be contaminated with different poisons, and there is no doubt that thousands and thousands are poisoned every year by this necessity of life, which should be pure and harmless and placed within the reach of all. The germs of typhoid and other fevers are bred by drinking bad water. Of course water may be made safe by boiling, but boiled water is insipid and flat. It is

the duty of the State to safeguard the health of the people ; but in this case, and in one or two others that could be mentioned, it certainly does not do it. The sewage of large towns is still poured into such rivers as the Severn and the Mersey, and these waters are drunk by thousands of people on their banks. It is not too much to say that a few cases of cholera at Shrewsbury would spread an epidemic from that town along its course to the sea. The encampment of a few Russian Jews on the banks of the Rhine above Hamburg infected that town with the awful visitation of cholera that spread throughout Europe a few years ago. The safest waters and the pleasantest to drink are those that are bottled at springs in Germany and elsewhere ; they contain carbonic acid, and when opened are bright and sparkling ; they are also very often slightly antacid, and therefore very suitable for gouty and corpulent people. Spirits diluted with aërated waters are not so injurious to the stomach as when taken with water. The name of the aërated beverages in the present day is legion. The water that I prefer, and that best meets my dietetic requirements, is sparkling Kalzmar. It is bottled at a spring in the Taunus Mountains, in Germany. Being highly aërated, it is very pleasant either alone or mixed with wine or spirits. It is imported by the Kalzmar Water Company, of 98, Shaftesbury Avenue, London. Many naturally aërated waters are antacid, and hence very suitable for gouty, rheumatic, and corpulent people, whose systems are always overcharged with acids. With a proper system of diet, they form a pleasant adjunct for dissolving and clearing the system of these.

PART II.

DISEASES DUE TO IMPROPER OR EXCESS
OF FOOD, AND INSUFFICIENT EXERCISE.

OBESITY.

GOUT.

INDIGESTION.

EXCESSIVE LEANNESS.

CONSTIPATION.

BILIOUSNESS.

BRIGHT'S DISEASE.

DIABETES.

ANÆMIA.

NERVOUS DEBILITY.

HEADACHE.

ACIDITY.

RHEUMATISM.

NEURALGIA.

CONSUMPTION.

SCROFULA.

URINARY CALCULI.

HYSTERIA.

THE prevention of disease is more rational than its cure. The cure of any ailment implies that experience has often been bought at the cost of health and pain. But among the generality of people a repetition of the same ailment arises from an ignorance of its cause, and therefore to learn how to avoid in the future what has been a source of trouble in the past, should be the aim of every sensible being. I believe that there are thousands who crave for this knowledge, as there are thousands, that no amount of experience teaches to be wise. This more particularly applies to the daily mode of life, in the luxurious and the sedentary ;

and every physician has met, in the course of his experience, many who are only too anxious to avoid ill health if they knew how to do so. If this work will aid them in this effort, and prolong and make more comfortable the lives of those who desire continued health, its aim will have been accomplished.

In treating the conditions tabulated here, by scientific dieting, there is one difficulty that often arises. That is, that patients living at hotels and different places, and in some instances even at home, cannot obtain, with proper regularity and carefully prepared, the necessary dietary. To obviate this difficulty in the case of those who desire it, every comfort and attention with pleasant surroundings are obtainable at 74, Lancaster Gate, London, W.

CHAPTER XVI.

OBESITY.

Obesity, its chief cause—Its insidious growth—Corpulency as a disease—How the obese are regarded—Quacks and the obese—Mischief done by quacks—The law and quacks—A case showing the danger of quack medicines—Self-treatment—Corpulency destructive to beauty—Tight corsets in corpulency—Cases of extreme corpulence—Races, obesity in—Temperaments and corpulency—Mental effect of corpulence—In disease—Fatty heart—Apoplexy—Bronchitis—Dropsy—Cure of corpulency—Ailments incident to obesity—Necessity of reducing to normal weight—Table of stature and weight—Dieting for obesity—No difficulty—Adjustment of amounts of food—Treatment in different parts of the world—Food according to climate—Health and strength restored by loss of fat—Table of losses in weight, four hundred cases—To keep at a stationary weight—Banting, etc.—The food of energy—Scientific dieting—Marienbad and Carlsbad in obesity and gout—Weakening effects of their waters—Lean meat in obesity—A bad system—Banting's system wrong—Symptoms of over-eating—Gluttony, dangers of—Food necessary for health, amount of—Workhouse dietary—Convict dietary—Playfair's tables—Obesity, scientific dieting in—Gluten and bran biscuits—Rapid loss of fat—Obesity detrimental to health—A disease of indolence and ease—Anæmia in the obese—The bucolic complexion.

OF all the diseased conditions due to excess of or improper foods and want of exercise, there is not one that leads to so much discomfort or is so disastrous in its effects as corpulency. It creeps on slowly and insidiously, and the individual becomes so entangled in its toils that, when it becomes

absolutely necessary to grapple with the deformity, either age, or the inactivity that the obese state leads to, makes it difficult to do so.

Though corpulency is not a disease, in the usual acceptation of the term, it is a condition that destroys all comfort, curtails the ability to enjoy most of the pleasures of life, and indirectly leads to disease and premature death. Though this unsightly state is so frequent, it is not one that meets with much sympathy; for the sufferer is generally considered to be fond of good living and deserving of his abnormal proportions; and the ordinary run of practitioners who are consulted seldom offer any consolation or suggest a remedy; indeed, few medical men give the attention to dietetics in the treatment of disease that disease demands, and as a result the corpulent person too frequently falls an easy prey to some quack who finds him a profitable subject, and doses him with drugs that effectually and permanently injure his digestive organs.

It is really deplorable to see the mischief done by taking quack medicines for the cure of corpulency. They simply destroy the stomach, and therefore prevent food nourishing the system at all. One quack advertises that his compound, which is a strong acid or drug of some sort, destroys the "root of the disease." As a healthy stomach that unduly assimilates starches and sugar is really the "root of the disease," he is right, as it certainly does destroy that. Whether it is advisable to do this, I may leave the reader to judge.

The law punishes the vendor of diluted milk or adulterated pepper, but the law leaves the quack to disseminate his lying advertisements, and per-

manently injure and poison thousands of ignorant and credulous people every year with impunity. The quack's methods are always much the same. He offers to send, free of charge, the recipe for his medicine. This, of course, contains one or two imaginary drugs with long names, which no chemist can supply. He then suggests application to himself, and the injurious process begins. Every organ in the body furnishes the quack with his opportunity, but I think obesity offers the best of all, and the papers who profit by his advertising unwittingly assist him in his poisonous and dishonest practice.

The following is a fact. A lady came to me some time ago suffering from great weakness and anæmia. She told me that she had been secretly taking a quack medicine for corpulency, and that she became very ill, having persistent fainting fits and sickness. After a time her husband insisted on sending for a physician, but she carefully refrained from telling him what she was doing. He (the physician) rather staggered her one day by saying, "I should like to dine with you to-night." This he did. The next morning he called and told her abruptly that she was being poisoned, and that he had watched to see whether her husband and others avoided any dish at dinner. This so alarmed her that she made a clean breast of it, and informed him what she had been doing. He then told her that, had she died in one of her fainting fits, her husband would most certainly have been put in the dock, as he was the only one who could have had any interest in compassing her death. She had carefully hidden away all traces of the medicine she was taking. Thus an innocent man might have suffered for her

indiscretion. So much for her belief in lying quack advertisements and so-called harmless (?) remedies.*

Many think they are competent to diet themselves and proceed to experiment, and by dint of purging, starving, and tiring themselves by manual work or walking, reduce a few pounds in weight ; but as there is no scientific principle underlying their system of treatment, they soon find it too hard to continue, and so once more resign themselves to the inevitable, and go on increasing in weight and losing in health and condition.

The physiological cause of obesity is too well known to need explanation here. Putting aside heredity, it simply means that those foods (carbohydrates principally), that by their chemical decomposition keep up the heat of the body, are taken in excess, and that the surplus beyond what is required for this purpose becomes stored as fat.

Though corpulency, as a rule, commences between the ages of forty and fifty in men, and in women a few years earlier, it is by no means uncommon in the very young ; and, indeed, I have had numbers of cases even of children to treat where the weight has been enormous ; but, happily, even in the very young, it is easily within the reach of proper dietetic treatment.

If increasing corpulency in a man is a misfortune, it is a far more unfortunate state of affairs in the

* Another useless remedy for reducing corpulency is the electric bath. The recent exposure of electric belts ought to teach the public a lesson. One really is tempted to ask whether people are not utterly devoid of reasoning power when one hears of them taking quack medicines containing *green* and *red* electricity. But ignorant people always do believe in things they do not understand.

female, for, long before beauty should cease to attract, the complexion loses the peach-like bloom so much admired, and the figure those lines of grace and elegance that should be its characteristics. More than this, the ability to dance, and ride, and work, and enjoy life, is very much curtailed by the unwieldy proportions, a serious matter not only to those in the humbler walks of life, and those who have to earn their livelihood by manual work, but also to those who move in the higher ranks of life and society, and who have to obey the dictates of fashion. No amount of enamel and cosmetics will improve the *figure*, and even the wiles of the fashionable dressmaker are powerless in this case. The fat is there, and will not be put out of sight, in spite of tight-lacing and all the other agonizing processes that may be resorted to. Indeed, to attempt to hide it by this means leads to greater evils even than corpulency. When it is so safe and easy to lose four to twelve inches in abdominal girth, and five or six stone in weight by dieting, where is the necessity of unduly compressing the waist, and suffering all the agony that this entails, to no purpose? *

As the tight corset, called into requisition to give the semblance of a waist in the female who is overburdened with fat, impedes the breath and forces the internal organs into unnatural positions, hence arise great difficulty in breathing, and derangements in the digestive functions, with liability

* I remember a lady writing to me on this point, as an illustration of what a difference a course of dieting will make, in these words: "I feel grateful every recurring day for the benefit gained by the dieting I underwent. I should say that I now weigh under nine stone, and at the age of fifty-seven have regained almost the figure and elasticity of my youth."

to profuse perspiration on the slightest exertion, and, worse still, the tight lacing causes the complexion to become pasty and the face puffy from impeded circulation, a most disastrous state of affairs where beauty is an object to retain, as certainly it should be in all those who are blessed with it.*

The victim of corpulency can never be in the enjoyment of robust health, or in good condition, and undoubtedly after a certain stage it becomes a disease, and the heart and other organs get loaded with fat and become weakened, and therefore unable to perform their functions properly. All fat people suffer from a weak heart *while they are fat*. Though the fat of an average male adult should only be a twentieth part of the weight of the body, and of a female a little more, it is seldom

* Some years ago, in a case of extreme obesity that I reported in the *Lancet*, I made the following remarks, and since then a vast amount of controversy has arisen on the matter of corpulency and its cure. After mentioning an extraordinary case of obesity in a child, I go on to say, "While on the subject of obesity, may I remark that it appears to me its physiology has not received the attention it deserves? We all know that certain foods fatten some people, and that sugar and starch are the principal offenders. Beyond this there is little light. Corpulency in excess is a diseased condition, and I think deserves more consideration in our treatment of many ailments, of which I assert it is the primary cause. Corpulent people are often ailing, are more subject to gout, colds, bronchitis, and many other diseases than lean people, but the condition excites no sympathy; they are supposed to be fond of good living and deserve to be fat. A chimney that smokes is swept, but a sufferer from obesity is left to go on in his misery, and he goes to quacks for relief. Personally, I take a great interest in this subject, and have treated large numbers of people for corpulency with great success. The ordinary dietary for our climate is admitted to be faulty. This has been constructed during hundreds of years by cooks and not by physiologists. Let us hope, as we live in an age of progress, that the philosophy of dietetics may soon teach us how to 'eat to live,' not to 'live to eat.' Longevity and leanness are twins."—*Lancet*, July 19th, 1890.

that the balance is so evenly kept. The excess may be much greater than this without impeding the power of taking exercise or enjoying life, at least early life, or youth, for Daniel Lambert, at the age of twenty-three years, weighed thirty-two stone, and could walk from Woolwich to London ; subsequently, he attained the enormous weight of fifty-two stone eleven pounds, and died, as a matter of course, before middle age.

Dr. Warrel records the case of a young married woman who at eighteen was thin and delicate ; she died at the age of fifty-two. The thickness of the fat on the chest was four inches and on the abdomen eight ; her heart after death weighed thirty-six ounces (ordinary weight eight). Thus, in extreme cases, one-half or even four-fifths of the entire body may be a mass of fat.

Numbers of cases of excessive fatness have come under my observation. I remember a boy of twelve I had to treat three or four years ago who weighed seventeen stone five pounds ; by dieting he came down to fourteen stone, but, unfortunately, could not be kept longer under observation.*

It is a well-known fact that some races of men are more subject to corpulence than others, but whether this depends upon their mode of life, or

* Another interesting case was that of a lady who, measuring only four feet eleven inches in height, weighed twenty-two stone. She came down by a course of dieting to fifteen stone, with great improvement to health and condition in every way.

This victim of improper food had to have her drawing-room downstairs converted into a bedroom, for she could not walk upstairs.

In a letter from her three years after, she says she can walk miles with comfort and go upstairs with ease.

A curious fact connected with her case was that, though she had been married ten years and had never had a child, she gave birth to one when she became thinner. Sterility is often due to obesity.

hereditary tendency, is an open question. The Hottentot is almost always potbellied. The German is proverbially fat, and the Frenchman generally so about the abdomen. The Scotch are thin, so are the Irish. What the Englishman is may be judged by the satire of the age. The jolly "John Bull" sort of man depicted in the genial pages of *Punch* is supposed to represent the national tendency.

The determining causes of over-accumulation of fat are excess of food, and drink that contains sugar, or other fattening material, with insufficient exercise to burn off the products of this excess; but this does not *always* apply, as some fat people have very poor appetites, but then, as a rule, like the Germans, they drink fattening fluids. With regard to drink in respect to its fattening properties, it is more in the form that it is taken in than in the quantity of alcohol it contains, for alcohol in the form of spirits is certainly not directly fattening; but in the form of wine, malt liquors, and especially stout, it is enormously so. So also with regard to diet. Some whose appetites appear small get very fat, but these people generally eat nothing but what is excessively fattening, and next to none of those foods that help the system to dispose of it. I have often to point this out to victims.

Nervous influence has a great deal to do with fat, and the highly-strung, nervous individual is seldom overburdened; on the other hand, the idiot and the stupid, heavy, non-intellectual person is generally flabby and obese. Thus an active brain, as an index of well-developed nervous power, has much to do in reducing the tendency to corpulence.

All those states of the system that diminish the oxygenizing power of the blood, tend to induce fat, that is, by preventing its conversion into carbonic acid and water, and its elimination from the system by the lungs. It may not be out of place to point out that this is the way in which exercise, by circulating the blood rapidly through the lungs, gets rid of fat from the system; and this is one way in which alcohol in excess directly causes the accumulation of it, by preventing the elimination of waste products from the economy.

The mental activity of the corpulent person is variable, but he or she is generally easy-going and indolent; if active, as a matter of course, is troubled by excessive perspiration, and, as a consequence, by eruptions and soreness of those parts that chafe, which still further retards healthful exertion.

The blood vessels are languid in their action, and the heart being always weak, the corpulent person is a martyr to piles and varicose veins; and, dependent on the congested state of the system, to faintness, giddiness, headache, and a bloated state of the countenance. The fat man often ails without apparent cause, is more liable to cold and diarrhœa, due to the plethoric and congested state of the mucous membranes, than is a thin one.

The corpulent person is quite as liable to all diseases as the thin one, and more so by far, with this disadvantage, that ailments in him run a more unfavourable course, and he bears treatment worse; further, he is more difficult to treat, on account of his inability to stand lowering measures. He is also more subject to gout, and his urine always contains uric acid to excess; therefore the same may be said of his liability to rheumatism. As

years advance corpulency increases, and, unless in such cases as cancer or diabetes, permanently, so that really excessive fat should be regarded as a grave matter, and one tending in every way to shorten life. Death, by faintness from an over-fatty heart and an over-loaded stomach, by apoplexy from weakness of the blood-vessels, and by bronchitis and dropsy from the poorness of the blood and the languid state of the circulation, often terminates life about the beginning of the sixth decade. But from whatever cause the obesity may arise, or however advanced it may be, it is happily, by proper dieting for a short time, within the reach of complete and permanent cure. I think I may speak from large experience on this point, as undoubtedly within the last four or five years I have advised some thousands of victims with unvarying success, without hardship or starving, if for a time they will live by rule.

It is seldom that a person is corpulent without at the same time being the victim of gout or rheumatism. I have found that a reduction of fat means a complete revolution in these states, as well, indeed, as to many other ailments that are indirectly due to accumulation of waste in the system; for instance, such conditions as eczema, psoriasis, and many other skin diseases. There is no doubt that a fat person does not enjoy life as much as a person of normal dimensions, as he or she cannot ride, hunt, shoot, and take the exercise that to many people furnish the greatest enjoyment. Indeed, it would be dangerous for them to do so, for medical men well know that numbers of deaths are due to over-exertion in fat people, and this is constantly illustrated at the beginning of the hunt-

ing and shooting seasons. Men who have lived on the fat of the land for ten months out of the twelve are induced to take more muscular work than the heart can stand, so that it goes labouring on until it suddenly fails and death occurs. This would never be the case if, previous to beginning the season, the fat person was reduced to something approaching normal dimensions, taking at the same time gradually increased exercise, so as to accustom and strengthen the heart, and tone the nervous system up to its requirements.

Indeed, after a time the heart becomes weakened in its *own muscle*, and therefore violent exercise is very liable to cause sudden death. Hurrying to catch a train is accountable for many such. The extreme breathlessness on slight exertion peculiarly marks this condition, and it is usually accompanied by recurrent attacks of bronchitis in the colder months of the year. This condition is known as fatty degeneration of the heart. Experience in treating corpulency so largely on a system now well known, proves that even in these cases very great benefit arises from proper dieting; dieting in which food that gives muscular and nervous energy must be largely increased for a time. The muscular tissue of the heart seems to be strengthened as the deposit of fat that hampers its action is decreased.

If life is to be prolonged the surplus fat should be reduced to what is normal, and a diet to build up better tissue substituted, so that the muscular structure of the heart may become strengthened.

The following figures show what should be the relative weight to height of a person at adult age in good health. On the higher scale a certain

percentage is allowed for differences in build, size of bones, etc.

A weight beyond the *extreme* means diminished respiration, impeded action of the heart, incompatible with robust health and condition.

Exact stature.		Normal weight.		Extreme limit.	
ft.	in.	Male. st. lbs.	Female. st. lbs.	Male. st. lbs.	Female. st. lbs.
5	0	8 4	7 9	8 11	8 1
5	1	8 9	7 12	9 2	8 4
5	2	9 0	8 2	9 6	8 7
5	3	9 7	8 8	10 0	9 0
5	4	9 13	9 2	10 6	9 7
5	5	10 2	9 8	10 10	10 0
5	6	10 5	9 13	11 0	10 7
5	7	10 8	10 5	11 5	10 13
5	8	11 1	11 0	11 10	11 4
5	9	11 8	11 6	12 2	12 0
5	10	12 0	11 10	12 9	12 6
5	11	12 6	12 2	13 3	12 12
6	0	12 10	12 8	13 12	13 4

The indications that should be carried out in dieting for obesity are—

1. To improve by exercise the muscular tissues, and by diet to keep the muscles of the body in firm vigour and tone.
2. To maintain the blood in its normal and healthy condition.
3. To regulate the quantity of fluid in the body by stimulating the action of the skin and kidneys.
4. To reduce fat by eliminating from the diet excess of those articles that create it, but not those otherwise useful in the economy.
5. To allow sufficient food and as many luxuries as the requirements of nature and the wants of the

system need, and yet, *by dietetic means only*, to reduce corpulency at the rate of four or more pounds a week, until normal weight is attained, and to do this with perfect safety and permanent improvement to the constitution.

There is no difficulty whatever in reducing corpulency, and I have known three stone of fat to go in ten weeks with great benefit, in every way ; and where it is properly done and the sufferer undergoes a proper course for this purpose, the result is absolutely certain and permanent, because the victim learns exactly what should be done in the future to prevent ever putting on fat again. This is very easy, as when the reduction to normal weight is complete, the difference between the former and the future mode of life is so small as to be scarcely appreciable. It means that a little less farinaceous food and sugar in its different forms should be taken, and a few trifling rules observed. But normal weight should be attained for this purpose.

The difficulty in treating corpulency is to get the sufferer, who is generally easy-going and indolent, and of epicurean tastes, to carry out any system for his good, if restraints are put upon appetite. Many, of course, live to eat instead of eating to live, and therefore will not diet for two or three months to reduce a condition that has probably taken twenty years to accumulate, though there is no hardship, and abundance of food may be taken.

It can be quite understood that the amount of food allowed in reducing a fat person must for a time be apportioned to his size, weight, and physical requirements, and of course one doing sedentary

work, or a female who leads a fashionable life, and who drives about, and takes too little walking exercise, requires a very different amount to a person who does hard physical work, or who is engaged much in riding, such as in the case of cavalry officers, or even of ladies who take horse exercise or walk, as some do, in the way of sport, or exercise, a great many miles daily.

In whatever part of the world or whatever nationality he belongs to, the victim of obesity brings it on himself to my certain knowledge, for in treating this and other conditions due to improper food by dietetic means, I am consulted by people who cannot see me personally on account of distance, not only in England but in all parts of the world. The history that they give of their mode of life always shows this. The details they give me with regard to the different modes of life and ways of living are very interesting, as in this case a form is sent for them to fill in. This embodies questions as to meals, times of meals, age, height, weight, exercise, occupation, mode of life, and many other details. And their replies are instructive and curious. Some of the dishes they consume sound strange to English ears.

In hot climates it is necessary to give far less food than in colder ones. Less sugar and starch* satisfies the wants of the system, as there is no demand for these to keep up the heat of the body, but more liquid is essential. When the reduction of fat is complete, any amount of food may be taken, so long as it is properly adjusted in its constituents.

* Saccharin is a perfect substitute for sugar as a sweetening agent, and is quite harmless. It may be procured at any chemist's.

It is astonishing what a difference a reduction in weight makes in regard to comfort and even health. I have before me now a letter from a patient whom I treated fifteen months ago, and who lost over three stone in weight. He says, "I can now walk and attend to my business with comfort, whereas before I was dieted I could neither walk, sit, nor get up without the help of another; but now I feel quite another man, nimble and active, and ten or fifteen years younger."

The following table will be read with interest by those who are troubled with excess of fat. It shows the rapid loss of adipose tissue that occurs when fat-forming food is cut out of the dietary, and other more nourishing food substituted.

It is taken from an article I wrote for the *Provincial Medical Journal*, and which appeared in November, 1893, with the following table illustrating the loss of weight and the reduction in abdominal girth. The article was a digest of four hundred typical cases of corpulency treated by scientific dieting.

Original weight.	Time under treatment.	Number of patients.	Average loss in weight and girth.	
			Weight. lbs.	Girth. inches.
From 10 st. to 11 st.	1 month	9	13	4
" "	2 months	12	16	4½
" "	3 "	16	20	5
" "	4 "	1	35	9
From 11 st. to 12 st.	1 month	10	13½	4½
" "	6 weeks	13	16½	5
" "	2 months	19	18½	5½
" "	3 "	8	24	5¾
" "	5 "	1	28	6½

Original weight.	Time under treatment.	Number of patients.	Average loss in weight and girth.	
			Weight. lbs.	Girth. inches.
From 12 st. to 13 st.	1 month	24	14 $\frac{1}{2}$	4 $\frac{1}{2}$
" "	6 weeks	9	19	5
" "	2 months	25	21	5 $\frac{1}{2}$
" "	3 "	5	22 $\frac{1}{2}$	5 $\frac{3}{4}$
" "	4 "	5	33	7 $\frac{1}{2}$
From 13 st. to 14 st.	1 month	21	15	4 $\frac{1}{2}$
" "	6 weeks	10	19	5
" "	2 months	20	19 $\frac{1}{2}$	5
" "	3 "	12	24 $\frac{1}{2}$	5 $\frac{1}{2}$
" "	4 "	7	26 $\frac{1}{2}$	7
From 14 st. to 15 st.	1 month	10	15 $\frac{1}{2}$	7
" "	6 weeks	6	19	5
" "	2 months	19	21 $\frac{1}{2}$	5 $\frac{1}{2}$
" "	3 "	11	25 $\frac{1}{2}$	7 $\frac{1}{2}$
" "	4 "	2	46	9 $\frac{1}{2}$
From 15 st. to 16 st.	1 month	12	17	7 $\frac{1}{2}$
" "	6 weeks	9	20	8
" "	2 months	14	26	8
" "	3 "	10	32	9
" "	4 "	1	42	10
From 16 st. to 17 st.	1 month	8	17	4 $\frac{1}{2}$
" "	6 weeks	10	25 $\frac{1}{2}$	6 $\frac{1}{2}$
" "	2 months	13	26 $\frac{1}{2}$	8
" "	3 "	5	30	8
" "	5 "	1	64	17 $\frac{1}{2}$
From 17 st. to 18 st.	1 month	3	18 $\frac{1}{2}$	6
" "	6 weeks	5	24	7 $\frac{1}{2}$
" "	2 months	2	28	9
" "	3 "	7	33	8 $\frac{1}{2}$
" "	4 "	2	37	10 $\frac{1}{2}$
" "	6 "	1	53	10 $\frac{1}{2}$
From 18 st. to 19 st.	1 month	3	18	5
" "	2 months	3	30	7
" "	3 "	1	35	7
" "	5 "	1	59	9
From 19 st. to 20 st.	1 month	4	18	5
" "	2 months	2	28	6
" "	3 "	3	30 $\frac{2}{3}$	8
" "	5 "	1	49	9
From 20 st. to 21 st.	1 month	1	15 $\frac{1}{2}$	5
" "	5 months	1	67 $\frac{1}{2}$	13
From 21 st. to 22 st.	2 "	1	28	6
From 24 st. to 25 st.	3 "	1	32	4
		400		

Of course the great advantage in any treatment of obesity is that the reduction should be permanent, and this is always the case when normal weight has been attained by dietetic means, and a little knowledge of dietetics, as far as general food is concerned, gained. Where weight is lost by a "course" at some spa abroad or by taking quack medicines, which wash the food undigested through the bowels, the fat is again laid on quickly as soon as the starving process, which it simply is, is stopped or over. It is deplorable to see the number of people whose health is ruined by taking quack medicines in the hope of reducing fat; but at what a cost! for quack medicines *never* reduce fat, unless it is by first ruining the health, and thus preventing food digesting at all or nourishing any tissue. On the Banting system people dieted for a time and they got thinner, but they lost strength and nervous power as well because the diet was simply slow starvation, and when they had come down to normal weight and left off dieting, there being no scientific principle underlying the system, on returning to their usual mode of life, the result was that they soon put on again, the fat they had lost.

If I might express it in a way that many will understand: dieting for obesity is something similar to putting a horse into condition. He is brought in from grass, fat, lazy, and so far useless, then put on corn and hay and exercise; the result is that he soon parts with his fat, makes muscle, and gains in health and condition, so that he is capable of doing hard work with comfort to himself and pleasure to his owner. Of course if the horse were turned out to grass after he has been put

into condition he would naturally get back to his old state, but if a horse is required for pleasure or profit that is not done. This illustration may very well be applied to the human animal. If he wants to enjoy life, to feel bright and lively and active, he must make the result of his dieting permanent by avoiding to a certain extent in the future one or two things, as I have pointed out before. There is no hardship in this.

The human body requires, to keep it in health, foods that produce muscle, energy, and power, and other foods that generate heat. If, therefore, more of the latter are taken than can be utilized in the operations of life, it must remain in the system as fat, and not only as fat, but as the focus from which, by its contamination of the blood, such poisons as gout, and others, take their origin. Indeed, on the equable assimilation and excretion of the different classes of food depend health, comfort, and the condition of the individual, but through faulty diet, heredity, or an indulgent mode of life, in many persons the balance is not evenly held, and the waste that should be excreted or consumed in the system becomes stored as fat.

In scientific dieting we have to deal with this, not as the quack does, with purgatives, sulphuric acid, and other drugs that destroy the coats of the stomach, or carry the food which it requires for the operations of life through the body undigested, but by the aid of science, and in such a way that while that most complicated machine, the human system, is disposing of its useless encumbrance of fat, it is in other respects gaining power, health, and energy.

The rich classes seek such places as Carlsbad, Marienbad, and Kissengen, to clear the system of surplus adipose tissue and gout, that the excess and indolent or sedentary life of the previous year have induced, and undoubtedly if they did not do this, or undergo a few weeks' proper dieting, life would be shortened. The meagre fare and the quantities of purgative waters drunk at so-called Health resorts clear the system, but at the same time the individual loses condition and strength, and returns home, a washed-out and limp creature. Indeed, numbers come to me after a course of waters at such places as Marienbad, Carlsbad, Kissengen, etc., to be put into condition and taught the proper kind of diet that they should live on in the future, for as a rule the ordinary individual when he returns eats and drinks as much as he can, to gain strength, and as he does not select those foods suitable for this purpose, instead of gaining strength he generally puts on the fat that he has got off, and replenishes more rapidly than ever the store of gout poison that he has been clearing away. However, it is the fashion to periodically visit these places, and after a surfeit of luxurious living, a little hardship and starving are not out of place.

There used to be a system in vogue some years ago of reducing fat by eating nothing but lean meat and drinking large quantities of hot water. It was practised in England by a man who, I believe, now diets more on the principles that I indicated as more correct and scientific in letters in a controversy in the *Lancet* and *British Medical Journal*, some years ago. The treatment by lean meat only, is undoubtedly incorrect in every

respect, for it does not supply the blood with those salts that it requires, and therefore it is apt to lead to a vitiated and heated state of that fluid which becomes manifest in the form of boils and rashes. More than this, it is most unpleasant in its monotony. A properly constructed dietary for reducing fat should contain vegetables of certain kinds, and plenty of fruits and salads, a small quantity of fat itself, and an exceedingly small quantity of starch ; but on the proper apportioning of all these different constituents to the height, weight, and requirements of the sufferer depends success, and it would be impossible in a book of this kind to draw out a diet that would suit different individuals.

I presume that I have treated more cases of corpulency than any one else in this country, as I have devoted my attention entirely to the dietetic treatment of this and other conditions due to improper food, and mode of life, and my experience is that each particular form of mal-nutrition should be treated strictly on its merits, and no two cases should be treated exactly alike. People who attempt to formulate a diet for themselves, or who listen to the advice of the incompetent, do themselves much more harm than good. It is a better plan to be guided by medical authority.* The following quotation from a letter will illustrate this: "I have been trying to reduce superabundance of fat for some time and lost two pounds a

* Even Banting impressed upon people the necessity for this, for in his work on dieting for obesity he says: "I have invariably advised all my correspondents and readers to act advisedly under medical authority." Many people were injured by Banting's system, because they did not do this. People are apt to think that what suits one person will suit another ; but it is not so, and never will be.

month. It has caused me excessive pain, as I was told to eat as much fresh fruit and as many eggs as I could. These gave me severe indigestion."

There is no question about one thing, and that is that we eat too much altogether. "The keys of life and death are in the stomach," says the Rev. Henry Ward Beecher, and over-eating, more especially if combined with indolent habits, leads to deranged digestion and all sorts of ailments in the future. Among other symptoms of over-eating are headache, and oppressed breathing, vitiated secretions, plethora and its consequences, a sluggish brain, with horrible dreams during sleep and depression when awake.

Perhaps it is as well that we should be punished for our indiscretions, and pain is the only thing that teaches some people to be wise. A confirmed dyspeptic after a time lives by rule, because if he does not he suffers pain, but the corpulent person suffers no pain, unless breathlessness and great discomfort can be called pain, so he goes on increasing his corpulency by eating all sorts of things regardless of consequences, and sows the seeds of disease and early death as surely as the sun rises and sets.*

The absolute quantity of food required (at rest) by a full-grown man of average weight (one hundred and forty to one hundred and fifty pounds)

* "The ordinary state of the organs found in very corpulent people is that the *lungs* are very small; the heart and liver large and loaded with fat; the gall-bladder only containing a little pale bile or mucus; the stomach large and muscular, but well developed; the kidneys small, as also the spleen; and lymphatic glands and pancreas largely developed. Like many other conditions of disease, it is impossible to define the exact line at which morbid obesity may be said to commence. All degrees of corpulence indicated by such terms as 'stout,' 'embonpoint,' etc., occur to which the notion of disease is wholly inapplicable."—DR. W. II. ALLCHIN.

and height (5 feet 7 inches) is twenty ounces of bread or biscuit, twelve ounces of meat, and half an ounce of butter daily, supplemented by three, four, or more pints of water, according to the season of the year.

The workhouse allowance—and paupers are never over-fat, though they live long—is sixteen ounces of bread, two and a half ounces of meat, two and three-quarter ounces of meal, five ounces of milk, three-quarter ounces of cheese, and one-eighth of an ounce of butter daily. To keep up the waste of the system, the absolute amount of dry food required for that purpose is sixteen and a half ounces; so that the ordinary indoor workhouse inmate has half an ounce of nutriment every day to spare over what his system absolutely requires to keep soul and body together.

The convict who is in prison for less than seven days has only fourteen ounces of solid nutriment daily, as against the pauper's seventeen; but for longer terms he is given more, otherwise he would perish of slow starvation, as many of Banting's patients did.

A person doing hard work can take a large amount of food without putting on fat.

Dr. Lyon Playfair has estimated the quantity of food required under varying conditions of work as under—

	Nitrogenous.	Carbonaceous.
Subsistence only ...	2'6 ozs.	13'3 ozs.
Quietude	2'5 „	14'5 „
Moderate exercise ...	4'2 „	23'2 „
Active work	5'5 „	26'3 „
Hard work	6'5 „	26'3 „

It will thus be seen that subsistence diet would be represented by about twenty-eight ounces of

ordinary moist food per day, and hard work diet by about sixty ounces of the same ; and here we will take the amount of food allowed by those who, like Banting, form a dietary for the reduction of corpulency.

It is admitted that the human body decreases in fat if the daily intake consists of the three great groups of food, in the following proportions—

Albuminous food, about $4\frac{1}{2}$ ozs.

Fatty food, $1\frac{2}{3}$ oz.

Starchy food (carbo-hydrates), $5\frac{1}{3}$ ozs.

This means, under ordinary circumstances, about twenty-two ounces of moist food daily ; and this is not sufficient in amount for continued safety.

With such a diet, of course there would be loss of fat, but at the same time the mechanism of the body would be starved too much, and the energy and muscular and nerve power would be diminished, so that a person would feel weak and below par. This should not be.

In fact Banting's system is slow starvation ; it reduces weight, but it reduces vitality and strength at the same time, and is not scientifically correct, for if the fat-forming food is taken from the dietary, the muscle and brain-forming food, as a matter of course, must be considerably increased. Thus the organs that help to consume the fat are kept in working order, the greater amount of oxygen taken by the lungs acting as a blast of air does in the furnace, and in assisting in burning away the waste—*i.e.* fat. Scientific dieting provides for all this.

The treatment of obesity means that for a month or two—or longer, according to the degree of corpulency—the dietary should be carefully apportioned

to the requirements of the individual, both in its quantities and its constituents. All fat-forming food should be cut out, and the foods that make muscle, nerve, and energy be given instead ; that is, broadly speaking, such articles as fish, game of all sorts, and green vegetables, salads, stewed fruits, and so on should form the diet. In treating the condition, I seldom allow more than one ounce of farinaceous food a day, and that is one ounce of toast in the morning. Anything else that is taken in this way must be in the form of gluten and bran biscuits, which are made for my purposes by Mr. Blatchley of 167, Oxford Street, London.

It is by no means unusual for people to lose four or five stone in weight, or even eight stone, with benefit in every way ; and in no case can harm ever arise where the dietary has been properly constructed and drugs and quack medicines of all kinds avoided. Numbers of people attempt to diet themselves, but they fail after they get off a few pounds, and for the very good reason that they make their own rules and break them, and do not understand the difference between a diet *that reduces fat* and a diet *that does not fatten*—two totally different things—and I presume have no confidence in the management of their own cases. It is said that the lawyer who makes his own will has a fool for his client, and even medical men seldom care to attempt to lay down dietetic rules for themselves, and this very wisely too for the reasons given.

Any one desirous of being treated for obesity should seek the aid of some physician who understands the subject thoroughly, for it is advisable, when dieting is commenced, that weight and girth

should be taken each week, and the diet apportioned according to the constitution, habits, sex, age, and mode of life of the sufferer, so as to regulate the reduction according to circumstances.

The victim should be therefore under observation, and should see or write once a week to the physician guiding him or her, so that he may see how the reduction is going on, that health and strength are improving, and that the different organs of the body are working harmoniously, and that the condition is being improved. This makes the result absolutely certain, and it gives the patient confidence; and once the dieting is begun, and the patient loses fat and gains strength, it is seldom that he or she fails to carry it out until normal weight is reached.

To illustrate the rapidity with which fat may be lost and health in every way improved, I may mention the case of a gentleman who came to see me on the 29th of March, 1892, weighing 16 st. 4 lbs., and by the 24th of June of the same year he had come down to 13 st. 6 lbs.; and in a letter to me, written some months after, he remarks, "I am not only really stronger now, but more active and better able to endure fatigue than I have been for years, which is a great matter in my particular calling."

It is high time that the time-honoured idea, fat means health and strength, should be cast to the winds, for there can be neither one nor the other if the body is burdened with useless material that hampers its movements in every way.

I suppose I may claim to know as much about the habits of the upper classes as any one, and it is a matter of wonder to me how so many of these

people enjoy the health they do, for the appetite is tempted by every delicacy that art can fabricate, and the only exercise many of them take in London during the season, consists in driving up and down Rotten Row for two or three hours a day. Of course, in London it is difficult to take walking exercise, and therefore the life is one of indolence and ease, and one that fosters the accumulation of waste in the system in every way ; but happily science comes to the aid of even the most luxurious, and if they are amenable—and they are so, even more than one might expect—to the dictates of reason, and to a little wholesome restraint for a time, the result is worth all the hardship, if there is any such.

It is marvellous what a very luxurious diet may be constructed, and still all fat-forming ingredients be absent. All but those that live to eat tell me that the dietary I allow gives all the latitude that even the most fastidious can desire, and on this muscular and nervous strength are increased, while fat is lost at the rate of from ten to sixteen or more pounds per month, according to the degree of obesity.*

In conclusion, it may be pointed out that though fat-forming foods taken to excess are of course the greatest cause of corpulency, this state may be increased by deficient muscular exercise and an indolent mode of life, as this, by diminishing the waste of tissue, favours obesity ; and since, as a rule, a stout person is less capable of taking exercise, these conditions react one upon another to the advantage of fat production, and naturally add to the mischief. Nervousness, on the other hand, tends to reduce obesity, and the highly strung, nervous individual is seldom obese. Indolence, by

* See *Provincial Medical Journal* of November, 1893.

preventing the proper circulation of the blood, of course naturally increases the tendency to corpulency. It does this by limiting its oxidizing power, and the formation of carbonic gas and water, which eliminates waste from the system by the breath.

The muddy, pale complexion of fat people is due to the want of iron in the blood; it is also due to the sluggish circulation that is the result of the lethargy such a state induces. The converse can be seen in those who take plenty of outdoor exercise, for it will be noticed that such people always have a healthy colour. Those who reside in the country are more ruddy and fresh-looking than those who live in populous towns, or who work in a vitiated atmosphere. It will thus be seen that fresh air has a great deal to do, not only with improving the health, but also with purifying the blood, and as the blood is the basis from which every tissue in the body is formed, if this becomes impure it influences them all.

Over-fatness under any circumstances is nothing to be proud of; it indicates either indolence or gluttony, or both. It injures health, shortens life, and makes existence a burden.

CHAPTER XVII.

GOUT.

Gout generally hereditary—A disease of luxury and ease—Laplanders and gout—Sir Robert Christison and gout—Rare amongst spirit drinkers—Gout, refuse in the system—Living to eat, and eating to live—Antiquity of gout—The cup running over—Poor man's gout—Nature's warning—Drugs in gout—Causes of gout—The cure of gout—Suppressed gout—The production of gout—How to produce gout—Symptoms of gout—Archbishop Sheldon and gout—Proper treatment, the preventive—Danger of persistent attacks—Sir Andrew Clarke on gout—Gout not incurable—Hot water and gout—Kalzmar sparkling water—Wines for the gouty—Champagne Absolu—Advice to the gouty—Change of air—Chronic gout, evils of—Gout and obesity twins—Diet in gout.

THOUGH gout is, as a rule, a hereditary form of disease, nevertheless it may be brought on by a luxurious mode of life and idleness, coupled with indulgence in the pleasures of the table, and in sweet alcoholic liquids, in those who would otherwise pass through a long life with freedom from attack. The Laplanders were free from gout until wine was introduced into their country, when it became frequent. Irish labourers employed in raising ballast from the bottom of the Thames, who had no hereditary disposition, and came from country districts in Ireland, developed it, says Dr.

Budd, as a result of drinking enormous quantities of porter, sometimes as much as two or three gallons daily. According to Sir Alfred Garrod, a few years' indulgence, to excess, in port or sherry, will induce gout, even when there is no hereditary disposition to the disease. The result of drinking alcohol in its different forms, of wine, beer, or spirits, as a cause of gout, may be further illustrated by comparing its frequency in different countries. Sir Robert Christison reports that during thirty years' experience in the Royal Infirmary at Edinburgh, he only met with two cases of gout. This seems almost incredible, but other Scotch physicians bear it out. In Sir Robert's cases, the victims were two fat, over-fed English butlers—a pampered class.

In Ireland, Russia, Holland, and Sweden, gout is rare, and in these countries this may be attributed to the fact that they are spirit-drinking people. No doubt they suffer from diseases equally painful and more fatal, if not from this particular one. The cold, bracing air of Russia and Sweden admits of an amount of alcohol, in the form of spirit and wine, being consumed, that would be impossible in England; and the Scotch can consume an amount of whisky for this reason that would upset most Southerners. Where an individual *inherits* gout, he is much in the same position as the one who inherits a heavily mortgaged estate, and the remedy in both cases is the same; in both he must live carefully, and in gout he must not by riot overtax the organs that keep the system clear of the poison.

In the human body, gout in its various forms, with its train of painful and even dangerous

consequences, invariably tells of a system loaded with refuse, like a furnace over-charged with fuel and choked with soot, for the want of a proper stoking and air. Man, with his reasoning power, of all animals, should be free from diseases that are brought on by ignorance of the simple laws of supply and demand. If the pleasures of the table are greater to some natures than all the other enjoyments of life put together, all well and good, but at all events let the epicure learn that Nature will not be trifled with, and if he eats more than she requires, she looks to him to get rid of the waste by exercise and work, and if he does not do so, she afflicts him with gout, biliousness, obesity, indigestion, and other diseases that are due to over-feeding and under-working, that prevent his reasonable enjoyment of other more health-giving pleasures which are open to all. If he is to abuse one appetite, he must do it at the expense of inability to enjoy any of the others. I fear that any attempt to preach common sense to the gourmand, is like going out crying in the wilderness. My experience among the luxurious classes, as a dietitian, is, that the man who lives to eat, lives for little else, and that though impatient of pain, he is more impatient of any restraint upon appetite.

"Does he stop your champagne?" is generally the query put to friends by friends who are advised to consult me on matters of diet in such conditions as obesity, gout, and other ailments due to good living; not, "Does he stop your hunting or your shooting, or your walking, or your riding, or your fishing, or any other pleasures conducive to health?" Oh dear, no; all these may go to the wall, if a physician will let a gourmand gorge, and guzzle,

and eat, and drink himself into disease and early death.

The history of gout dates back to the thirteenth century, and the disease takes its name from the French word *goutte*, a drop, because it was believed in ancient times to arise from a humour which fell goutte à goutte into the joints. The affection is known in almost every country by some name or other among races of epicurean tastes. It seldom attacks its victim before the age of thirty-five. The poor rarely suffer from gout, so that Nature compensates them in this way for their hard lot in others.

Gout may be briefly described as a state of the system in which the waste of rich food of all sorts, and sweet wines, malt liquors, beer and porter, is not consumed in the operations of life, or by work and exercise, and therefore remains in the tissues in the form of what physicians call uric acid. This product, when the body arrives at a certain stage of super-saturation, when the cup runs over, one may say, by causing a peculiar inflammatory state of the blood, and hence of all the tissues, develops an attack. This is known as acute gout. Chronic gout does not materially differ from the acute; it simply means that the first form has been allowed to go on impregnating the system by long-continued, improper diet and mode of life and persistent attacks, until the diathesis has been established. The attacks are not so painful and the swelling and redness develop more slowly; the redness is not so intense, and the swelling remains after the skin has peeled. Chalk stones are more common, as a matter of course, and there is difficulty in motion, and weakness and deformity of the parts. Indeed, after a time, in chronic gout

the system is too weak to develop an attack of acute gout. The inflammatory action is of a low type. Poor man's gout, as it is called, belongs to this class, as it is induced by drinking large quantities of beer, and not taking other proper nourishment. The victim of chronic gout is almost always weak and deficient in tone, and may be pale or sallow-looking, or, on the other hand, exceedingly plethoric. Such people suffer from persistent digestive disorders, irregular action of the heart, nervousness and depression, cramps, twitchings, sciatica, and tic douloureux. A gouty man has many warnings that his system is becoming overcharged with the poison, which seems to gather in strength, as the atmosphere does with electricity before a thunderstorm, and the storm bursts as suddenly and in a similar manner. Nature holds out the danger flag in good time, if the individual would only notice it, and signals the impending mischief in the form of headache, mental irritability, dry skin, heartburn, palpitation of the heart, and vitiated secretions. For instance, that of the kidneys contains a thick brick-dust sediment that tinges the vessel with red lines, and deposits, in a cayenne-peppery-looking sediment, uric acid—gout poison.

The wise man when he sees these in the morning will take warning. If in this stage he stop rich food and heavy stimulants, and is properly dieted for a few days with food that opens the floodgates that let out the poison, and stimulates the action of the skin, liver, and kidneys (and proper dieting will do all this, especially if the action of the skin is encouraged by exercise or a Tarkish bath), it acts like magic, not as ignorant people think by

“driving the gout poison in,” whatever they mean by that, for the gout poison is already in, in excess, as any person of sense must see, but by stimulating the free action of those organs that eject the poison from the system. You cannot empty a cask by letting its contents out at the tap and pouring in more at the bung-hole.

Drugs in the treatment of gout are but palliatives, and they lead the victim to a feeling of false security, and to continuing a mode of life that brings on frequent attacks, until the constitution becomes so saturated with the disease as to be in constant danger. Under these circumstances, attacks become habitual at certain seasons. Excessive mental work or worry, exposure to cold or wet, suppressions of perspiration or of the different secretions, emotional causes, such as grief, or sudden joy, or rage, will induce an attack, especially in the colder months of the year. Hence a residence in a warm climate in the winter months, or warm clothing at home, and proper diet will often prevent one.

During an attack of acute gout, a tumbler of some aperient mineral water, such as Franz Josef, taken in the morning, is most useful, as it clears out the bowels and stimulates the kidneys and liver, and thus opens the channels that help to clear the system of the poison; but in a system that constantly becomes overcharged with gout poison by an improper dietary, physic is simply poison. The permanent cure of gout is easy enough, but it is a matter of diet only, combined with suitable liquids. The danger of taking drugs or the advertised palliatives for gout is that they temporarily relieve the attack, and induce the victim to persistently fly to their assistance, instead

of altering the mode of life that causes the disease, the result being that the constant and uninterrupted formation of uric acid develops disease of the kidneys and other organs, that becomes irremediable, and a form of chronic gout is the result, as the kidneys have lost their power of throwing it out. This is known as suppressed or atonic gout.

I remember an Indian officer coming to me some years ago, who told me that he had been a martyr to gout all his life. He was enormously fat (gout and fat are twin brothers) ; indeed, it was for the relief of the latter condition he consulted me. Being put on a fat-reducing diet, he lost in three months three stone in weight, but what astonished him most of all was that he also lost all his gout, and gained in return health and condition. Since that date to this, by living by rule, he has never had an attack of gout or put on fat. He said to me, "I have been on the wrong tack all my life." He had all his life been warned against meat. I gave him *for a time* plenty. In my experience, which is very large, in treating by dietetic means alone, cases due to improper food, or to the improper assimilation of food, particularly among the wealthy and luxurious classes, I find meat, to *the extent that the system demands*, having regard to work and exercise, absolutely beneficial to the gouty. It stimulates the different organs into activity, and assists them in burning up the refuse of the body, when other foods are taken in too great excess ; it acts as a draught of air does in a furnace.

Of course, in the gouty, meat of certain kinds, pork and other rich meats, for instance, should not be taken at all, for the simple reason that they clog the organs that keep the system clear, and

overcharge them with their own particular poison, such as in the case of the liver—bile, or of the kidneys—uric acid, in the form of calculi ; but light meats, game, poultry, and fish are essential. The great factor in the production of gout is undoubtedly sweet alcoholic liquor, in the shape of beer, stout, port, sherry, and champagne ; the next factors, naturally, are rich food, rich meats, sweets, pastry, made dishes, and epicurean compounds, such as *pâté de foie gras*, etc. ; not that these are necessarily much more injurious in themselves than what would be called plain food, but more so because they tempt the appetite, and therefore the individual, to eat to excess. I presume this fact is as old as history, for Socrates says—and the advice applies even more to this age of luxury and wealth, and therefore of Sybarite tastes—"Beware of those foods that tempt you to eat when you are not hungry, and those drinks that tempt you to drink when you are not thirsty."

Now let us consider the best way to produce a severe attack of gout. In the first place, it is a great advantage to inherit it—you begin then, so to speak, with a good balance at the bank ; in the next place, the candidate should eat largely of meat of the richer sorts, such as pork and beef, and of fish that are profuse in oil, such as salmon, eels, sprats, etc. ; he should go in well for savouries, such as anchovy toast, *pâté de foie gras*, caviare, and sweets, in the way of creams, ices, pastry, bon-bons, and so on. Water, to the man who is anxious for an attack of gout, is *poison* ; the proper liquids are port, sherry, and luscious wines, such as Madeira, champagne, Muscatel, Tokay, and, if he cannot afford these, strong ales and stout. These

should be partaken of freely, as they materially help the rich living in clogging the system with waste, to be by-and-by converted into gout poison.

No exercise should be indulged in, as this tends to burn up the gout poison by the skin (perspiration) and by the lungs, and the indolent mode of life, by causing constipation and congesting the liver, would prevent the bowels carrying off the poison by this channel. The individual should, of course, lie in bed as much as possible, reading novels and other light literature that involves no brain work.

This is the proper way to ensure gout, and this is the way those who suffer from it usually live; they are blind to warnings, and, in fact, seem anxious to bring on the fit,* not to avoid it, under the impression that it clears the system. It does so for a little time, at first some months, or even years, if the sufferer is young, but at what a cost! for when recurrent attacks have established the gouty diathesis, that is, constitution, the interval shortens, and the surplus uric acid is always in the system, and a little sprain or other accident is followed by an attack of gouty inflammation of the part. The victim is thus never safe. He goes to bed apparently well, and awakes in the middle of the night, from his uneasy sleep, with pain in the great toe, heel, instep, or other joint, with a shivering fit, followed by great swelling and redness of the affected part, restlessness, constipation, and furred tongue.

* It is said that Archbishop Sheldon not only looked forward to an attack of gout, but actually proffered a thousand pounds to any one who could help him to one, looking upon it as the only remedy for "the distress in his head."

These symptoms go on with more or less fever and irritability for a few days, and by means of abstinence and plenty of hot water—means that should have been adopted before the attack came on—he is well again for a time.

The most important treatment of gout is the preventive ; for if this be not successfully pursued, however quickly the attack may be relieved, the disease will occur again and again, and the system get more and more impregnated with the poison. By repetition: the body in this respect is like a mill-pond—you may open the sluices and let the water out ; but if you close them again, and do not turn the stream into another channel, it will refill again.*

The great danger of persistent attacks is in the mischief they cause the kidneys ; the work thrown upon them in eliminating uric acid tends after a time to disorganize their structure, and the result is they become diseased, more particularly in the form of Bright's disease. To explain all the changes in the system that occur from repeated attacks of gout would be out of place here, suffice it to say that they mean in every way a shortening of life ; indeed, assurance companies are aware of this, and they will not insure the gouty, except at an increased premium.

It has been customary to consider gout as an incurable disease and one that, once established, will lead to repeated relapses. This is undoubtedly

* Speaking of this disease, the late Sir Andrew Clarke says : " What it (gout) exactly means to other people I do not pretend to know ; what it means to me I can tell in a few words. By the gouty state, I mean the state brought about in certain constitutions by the retention in the blood and tissues of the body, certain acids and waste stuffs, and their effects thereon."

the case when the individual continues to indulge in those luxuries and that indolent mode of life that fosters accumulation of waste in the system. As well might one, after preparing the ground and planting the seeds, expect them not to appear in due season, as to expect immunity from gout if the luxurious diet and mode of life that developed it are continued. The disease is one of ease and idleness, as well as of gourmandizing; and, where the blood is vitiated by retained unhealthy matter, unless attended by active muscular exercise, it will not throw out the poison. I have found nothing so beneficial in gout as a sudden and complete change in diet, and this to be for a time adjusted so that it should fulfil the requirements of the system, and no more. The day should be begun and ended with a tumbler of hot water; it should consist of three meals only, and these should be of light soups, fish, light meats, green vegetables, and salads, with plenty of fluid in the shape of Kalzmar water. This water, being slightly antacid, tends to dissolve the uric acid and wash it out of the system, and, being a naturally aerated table-water, is a pleasant adjunct for diluting wine or whisky for this purpose.

Claret is a bad wine for gouty people to drink with meals, as it contains tannin; and, of course, sweet wines, such as port and sherry and champagne,* should be forbidden. Aldous, of 66, Hatton Garden, Holborn, imports dry Moselles very suitable for the gouty, as they are free from sugar and tannin, and, having the pleasant aroma of Moselle grape, are pleasing to the palate. For those who

* Exception should be made here to a brand of champagne I have lately analyzed, called champagne 'absolú'; it is quite free from cane sugar, and is a natural wine of fine flavour and purity. See p. 50.

require stimulants, either these wines, or whisky well diluted with Kalzmar, are the most suitable fluids. The population of the Rhine and Moselle provinces in France are remarkably free from gout, as the lighter kind of this class of wine has no tendency to induce the disease.

Naturally the proper course for a gouty person is to go to an expert in dietetics, to draw out for him a suitable diet, and this should be adhered to, until the system ceases to form the uric acid in excess, or at all, and the gouty diathesis is altered to something better ; but, as the victim of chronic gout is always in a weak state of health, he should on no account be put on a low diet or starved. The food should be generous but suitable. A change of air and scene to some watering-place, such as Cheltenham, Bath, or Buxton, in England, or Carlsbad, Vichy, Kissingen, etc., abroad, is always beneficial in bracing up the system. If this line be not pursued, the victim may expect, without a shadow of doubt, a further manifestation of the enemy in a short time. Suppressed gout simply means a system saturated with the poison, by persistent attacks of gout, which it has not the strength to throw off. In this case it is necessary to take a diet which will strengthen the system and assist in eliminating the poison by other channels. It is a fatal error to suppose that it is desirable to induce an attack by a debauch, as used to be popularly thought. This only makes the next attack more imminent and severe, and may lead to serious consequences.

Where gout is complicated with obesity, its cure can only be effected by reducing the patient by proper diet to normal dimensions. A system loaded with fat cannot ever be in a condition to throw off

gout poison ; indeed, fat is nothing more than the accumulated waste of fat-forming food taken to excess, and part of this at the same time is converted into gout poison, which in some constitutions develops, if not in acute gout, as gouty catarrh, bronchitis, indigestion, and other ailments due to excess of uric acid in the system.

In records of two thousand cases of obesity I have had occasion to treat by scientific dieting on a system now well known, I find that more than half of them suffered from gout in one form or other of its manifestation ; and my experience has been that when the system is cleared of fat, and the sufferer attains ordinary dimensions, the cure of gout has, as a rule, been completed. The same applies to rheumatism in almost an equal degree, where it is complicated with obesity. This may induce the victim of gout to give up a mode of life that bars the way to every pleasure but that of the table, and perhaps at an age when life has not lost its zest, to embark on a course of action that may lead to renewed health, strength, and activity.

CHAPTER XVIII.

INDIGESTION.

Indigestion, cause of—Abernethy on—Deficient nervous stimulus—First symptom of disease—Man an imperfect machine—Indigestion and abstinence—Food should be varied—Digestibility of certain foods—Nervous influence and digestion—Varieties of indigestion—Alcohol a cause of indigestion—Experiments on dogs—Benefits of abstinence—Dyspeptic melancholia—Sympathy between heart and stomach—Protean symptoms of indigestion—The teeth in indigestion—Decomposition of food—Treatment of indigestion—Rest and change—The cooking of food—Food eaten in sorrow—Fluid at meals—Relative digestibility of different foods—Diet for the dyspeptic—Breakfast—Lunch—Tea—Dinner—Suitable wines and spirits—Warm clothing—Atonic indigestion—Symptoms of—Rules for dyspeptics—Deficient nervous tone—Indigestion from tight-lacing—Red nose—Indigestion from nipping—Pepsine cracknells—Dr. Lionel Beale on pepsine—A stitch in time saves nine.

THERE is no ailment due to improper food and overwork, or too much food and too little work, more common than indigestion, and there is no ailment that causes more suffering and loss of health. Indeed, upon the proper assimilation of food entirely depends not only the bodily but also the mental health of the individual. The celebrated Dr. Abernethy used to say that no man would attend to his digestive organs until death stared him in the face; and this is too often the truth.

Indigestion arises from a variety of causes, and

there is no condition more difficult to treat. Indeed, to attempt to teach any one the proper food that they should take, and the mode of life that they should adopt when they become victims to persistent attacks of indigestion, would be a most difficult matter. This, however, may be taken as an absolute axiom, that the proper treatment of indigestion is dietetic. Medicine may palliate this condition, but it cannot cure it. Its cure lies in a dietary that the stomach can easily digest, and which will at the same time strengthen the nervous system, and, through this, the different organs that keep the body in a perfect state of health, especially those whose functions assist in this very process.

The causes of indigestion are manifold. No doubt some inherit a weakness of the digestive organs, and we are not all born with strong stomachs, any more than we are with clever brains. The same axiom applies to other organs, such as the liver ; and a weakness in one organ connected with the process of digestion, naturally affects all. Very often the origin of the improper digestion of food may, if not inherited as previously pointed out, be dated from very early life, where, from insufficient or improper nourishment in infancy and childhood, the stomach has been permanently injured, and, therefore, throughout life is unable to digest and assimilate food as it should. In this case, of course, the victim has to be very particular with his diet, and experience teaches him, to a certain extent, what agrees and what does not agree ; but very often experience—a hard taskmaster—is a bad guide, and the sufferer, to accommodate his impaired digestive organs, lives on food that does not

properly nourish the nervous system. The result of this is naturally that the nervous stimulus becomes deficient, and the subject is a martyr to chronic dyspepsia and the state of general ill-health that follows in its train. The healthy state of the blood—so important to life—is maintained by the food we take and digest. In indigestion that has been allowed to become chronic, the blood becomes poor in quality, and stagnates in the small veins, thereby leading to the most complicated changes in the different organs of the body, that, as a matter of course, are invariably accompanied by continued ill-health, and eventually lead to disease and death. It must be remembered that indigestion is often the first symptom of some serious disease of the stomach; in this case it is accompanied by great debility and a pallid, pasty, yellow colour of the face, betokening serious disease.

In the latter case a different line of diet should be adopted to that advisable in indigestion, caused by present errors in diet and mode of life. It is necessary that the food should be very digestible, but, at the same time, of the most nourishing kind. To ensure this, as I will show more plainly a little later on, it should consist in a great measure of animal food, either in a liquid or solid form, according to the merits of the case. Food of this kind is more easily digested than farinaceous and other vegetable products, and will undoubtedly, after a time, if a proper course is persevered in, enable the stomach to digest foods that it otherwise could not.

As a matter of course, the victim of persistent indigestion should consult some physician who is able to properly advise him in the matter. To

formulate a line of treatment and dietary for himself is simply fatal. A medical author, whose name I cannot recall, in his work on indigestion, says, that Nature has made man the most perfect machine that it will ever make. My opinion is that, though Nature *may have* made man a perfect machine, man is *now* the most imperfect machine in nature, as far as his physical and constitutional attributes are concerned. This of course is from errors of his own, or of his ancestors—not errors of Nature. Civilization has much to account for in this respect. The savage rarely suffers from this ailment until he is Christianized; then, as the gin bottle always follows in the wake of the missionary, he suffers from all those ailments that his more enlightened brethren import. He prefers the vices of the Christian to his virtues. Man is the only animal that eats when he is not hungry, and drinks when he is not thirsty, this latter often to excess; and to such habits may be attributed most of the indigestion from which the race suffers.

Indigestion, in the ordinary acceptation of the term, is a condition that is brought on, at all events in nine cases out of ten, from errors in diet alone. It is simply a symptom of a stomach that has more work imposed upon it than it can accomplish, and as a consequence it gets out of order and refuses to work at all.

In an ordinary case of indigestion a little abstinence from excess of food, and exchanging of improper food for suitable nourishment, will remedy the mischief; but in chronic indigestion, where the nervous tone is below par, great care and manipulation are necessary for some time. In the first place the stomach must have fair and regular rest. It

must have easily digestible foods, and must not be fed too often, that is, meals should not be too close together. Other troubles that follow indigestion as a corollary, such as constipation and inaction of different organs, must be treated according to their particular requirements.

Quite properly the victim of indigestion usually seeks the advice of a medical man, but a large number of others unwisely have recourse to all sorts of quack medicines, and in such an event, in ninety-nine cases out of a hundred, aggravate the mischief instead of remedying it. One reason for this is very simple. There are two particular forms of indigestion: in one there is deficient secretion of gastric juice, in the other there is too much. These two require totally different treatment. The chances are, therefore, just even, whether or not the victim, who doses himself with medicine or quack remedies, takes the right course; if he does not he aggravates the evil tenfold.

In adult life, indigestion is often caused by excess in alcoholic stimulants. These, both directly and indirectly, affect the stomach; in the first place by their irritant action, and in the second place by depressing the vital power, and therefore paralyzing the nervous stimulus necessary for the digestion of food.

The predisposition to this ailment varies according to the general health, and some persons may be affected by causes that would not influence others. To preserve health there must be a due proportion of all the different kinds of food that the system requires. Thus, there is the nitrogenous food, consisting in such articles as meat, fish, cheese, milk, eggs, oils, and even in some cases vegetables.

There is the farinaceous food, which means starch in its different forms, as bread, rice, tapioca, sago, cornflour, and so on. Then there are the mineral salts which are contained in the vegetables of different kinds, and to a considerable extent even in meats. As I indicated above, to preserve health there must be a proper proportion of each of these properties. No one of them alone, with the exception of milk and eggs, will preserve health or, for the matter of that, life, as has been shown in the various experiments with animals. Dogs fed on starch, sugar, butter, and oil, died in about a month, and for the want of that one other food necessary for the sustenance of the different tissues, viz. animal food in its different forms. Milk and eggs are the only articles that in themselves contain all necessary constituents, and on these life can be sustained at any age and for any length of time.

Civilization and the refinements of cookery has, to tempt the palate, made combinations of these, and there is no harm in this, if a proper amount be taken; the trouble comes in with excess. Indeed variety is more digestible when it is properly blended.

The natural instincts of taste and appetite teach us that certain articles of diet require others to go with them, and therefore to furnish that food that is both palatable and sustaining. For instance, with fowl we eat bacon, as fowl contains no fat. With the more humble bacon, we have beans and potatoes. With beef, mutton, and other meats, greens and potatoes. With bread, butter, and so on.

Food should be varied and well cooked, and on this depends its digestibility. The flavour of food

thus prepared induces a flow of saliva and digestive juices, and this materially assists in digestion. Meat and game are more digestible if kept for some time, the putrefaction that ensues softens the tissues, but vegetables should be cooked as fresh as possible. They require more mastication and mixing with the saliva than meat, and are not so digestible. All farinaceous foods, such as bread, absolutely require saliva for their digestion; meat does not. This is one reason why new bread is very indigestible. The saliva does not penetrate it.

Nervous influence has much to do with digestion, and it is well known that the thoughts of a good dinner, if the appetite is healthy, induce an active secretion of saliva, while depressing influences, on the other hand, retard this and prevent the digestion of food. A heavy meal, taken when the mind is perturbed, will undoubtedly induce a fit of indigestion, and under no circumstances should a person attempt to force the appetite when the stomach rebels against it. This is an error officious friends fall into, when they try to tempt the dyspeptic to eat, when he does not require solid food. A little beef-tea in such a case will do more good, than the most sumptuous repast ever set before a sufferer, could. Bolting the food so that it reaches the stomach in large masses, is injurious, as it does not excite the secretion of saliva and get mixed with it, or, for the same reason, with the digestive juices. It is absolutely necessary that there should be a healthy secretion of gastric juice for the purpose of digestion, and anything that vitiates this secretion will induce persistent attacks of indigestion.

There is no ailment so depressing or that causes

more mental misery than this. To the dyspeptic everything looks gloomy and hopeless, and life becomes a burden. Indeed, so profound sometimes is the melancholia, that the victim is driven to suicide. Many a verdict of "temporary insanity" might with more truth be given "persistent indigestion." This condition induces derangement of all the other organs of the body, and, as a consequence, they refuse to perform their functions properly, so that there is, first, from the loss of appetite, headache, pain, and a feeling of fulness at the stomach, especially after eating. Flatulency is often a troublesome symptom, and to relieve itself, as an effort of nature, the stomach sometimes rejects its contents. The tongue is furred, the breath foul, and there is troublesome constipation alternating with diarrhœa.

The nerves and vessels that supply the stomach also supply the heart, and therefore there is direct sympathy between these two, so that palpitation of the heart is sometimes so troublesome a factor, as to lead the victim to believe that his heart is diseased. Headache, heartburn, spasms, and waterbrash, are all symptoms in different forms of indigestion, in fact the symptoms are protean. Where the digestion is slow from deficient gastric juice, a feeling of fulness and distension at the pit of the stomach occurs. Constipation, coated tongue, irregular action of the heart, and great mental depression indicate this form. The symptoms of indigestion are as varied as its causes, and it is difficult always to find whether a symptom is a cause or an effect. For instance, mental depression causes indigestion, while indigestion, in nearly all cases, causes lowness of spirits. As the causes of

indigestion are so varied and diverse, naturally upon a due appreciation of these depends its successful treatment.

For instance, it may be due to deficient or extreme acidity of the gastric juice. In this case, symptoms are usually felt about two hours after a meal, in a burning pain at the pit of the stomach, and the eructation of an exceedingly acid fluid. Here the food should be given in small quantities at a time, and should be of the most digestible and, at the same time, nourishing kind, and but a small quantity of fluid should be taken with the meal, and in this case sometimes a little stimulant is beneficial. Insufficient division of food, from an inability to masticate it properly, may give rise to persistent indigestion, the larger portions of the food not being penetrated and acted upon by the gastric juice.* The remedy in such cases is plain—a visit to the dentist. Too much liquid at meal times may cause indigestion by over-diluting the gastric juice and so rendering its action slower. Deficient nervous energy is a frequent cause of indigestion; and this, again, may arise from a number of causes, such as worry or overwork, mental or physical. In this case the nervous energy is insufficient to stimulate the stomach, to secrete a healthy and sufficient quantity of gastric juice, and hence the food of one meal does not digest before the time for another comes. Continued mental depression, such as fear, grief,

* “A weak, dyspeptic stomach, acts very slowly or not at all, on many kinds of food. These undergo spontaneous decomposition, promoted by the warmth and moisture of the stomach; gases are liberated, acids are formed, and perhaps the half-digested mass is at length expelled by vomiting, or it passes into the bowels, causing intestinal irritation and diarrhoea, until it is evacuated.”

excitement, anxiety, exhaustion, and so on, diminish the secretion of gastric juice, and therefore tend to cause indigestion. The persistent indigestion of literary men depends upon the nervous power being diverted too much from the stomach to the brain, hard mental work being done without sufficient rest after a heavy meal, while the digestion is going on.

The treatment of indigestion is as varied as its causes ; but in all cases it is necessary to invigorate the system generally, and to effect this purpose the food should be easily digested, but of the most nourishing description, and this more particularly in the form of strong soups, and meats carefully and well cooked, with certain selected vegetables. There should be relaxation from severe work and from the care and anxieties of business. A day's complete holiday should be taken once or twice a week, and, if it is possible, a change of air. Exercise, by improving the general health, tends to increase the power of the stomach to digest food, but it should never be taken to the extent of fatigue.

Every case of indigestion should be treated strictly on its merits. For this reason it is impossible to instruct the ordinary reader what to do, and indeed it is safer and more useful not to do so. The prevention of indigestion is certainly much easier than its cure. Where it proceeds from such causes as bolting the food, too much food, smoking to excess, excess in alcoholic stimulants, or other pernicious habits, these should all be avoided. The victim of indigestion should be especially careful as to the kind of stimulant he takes, and this should be taken only in strict

moderation, and also in proportion with the quantity of food consumed.

The digestibility of different articles of food mainly depends upon the way in which they are cooked. For instance, an egg whipped and diluted will digest in an hour and a half; one taken raw will digest in two hours; fresh roasted, in two hours and a half; boiled or poached, in three hours; hard-boiled, in three hours and a half; and fried, the same. It is therefore plain that the best form for a dyspeptic individual to take an egg in is whipped and diluted, or raw. The same applies to all other articles of food, and no one who values his health should eat meat cooked a second time.

Perhaps it would be well here to give a fair idea of the relative digestibility of the different kinds of food in common use, and it may be taken for granted that those articles of diet which occupy over three hours in digesting, should not form part of the dietary of any person suffering from acute indigestion. Among vegetables, the most digestible are: cauliflower, French beans, sea-kale, vegetable marrow, and artichokes; and it should be remembered, as previously mentioned, that variety in food is better than sameness. Cheerful companionship is undoubtedly an adjunct to digestion, and we all know that a meal eaten in sorrow lies heavy. The dyspeptic will do well to take a small amount of fluid at meals, and if he must take stimulant, a little weak brandy and water would be best.

The following table may be consulted with benefit by the dyspeptic.

Food digested within 1 or 2 hours.	Within 2 or 3 hours.	Within 3 or 4 hours.	Indigestible, 4 or 6 hours, or longer.
Tripe	Poached eggs	Roast beef	Salt beef
Oysters	Boiled eggs	Beef steak	Pork
Custard	Chicken	Salmon	Salt pork
Stale bread	Bread	Bacon	Veal
Milk	Potatoes (mealy)	Fried mutton	Stews and hashes
Rice	Asparagus	Liver	Fried dishes
Beef-tea	Vegetable mar- row	Kidney	Hard-boiled eggs
Eggs (raw)	Grouse	Duck	Dumplings
Eggs (whipped)	Venison	Cold meats	Radishes
White fish	Rabbit	Pheasant	Unripe fruit
Jellies	Mutton	Partridge	New bread
Toasted bread	Farinaceous pre- parations	Puddings	Cabbage
Sweetbreads	Ripe fruits	Pancakes	Currants
Turkey pie	Artichokes	Preserved meats (sar- dines, etc.)	Second- cooked meats
Pâté de foie gras.	Cauliflower	Carrots	
	French beans	Beans	
	Brussel sprouts	Potatoes	
	Sausages	Parsnips	
	Porridge	Muffins and crumpets	
	Mutton kidney	Peas	
		Cucumbers	
		Celery	
		Cheese	
		Goose	
		Cakes	
		Lobster	
		Crabs	
		Fowl	
		Spiced beef	
		Curries	

To illustrate the kind of food that the victim of chronic indigestion should take, a specimen day's diet may be given, but of course this would have to be varied according to circumstances.

The sufferer should get up at about eight o'clock in the morning, and sip a tumbler of hot water while dressing.

Breakfast should be at nine o'clock, and should consist of one or two cups of tea (Ceylon tea should be taken in preference to any other, and should be infused for six or seven minutes only) with half milk. One or two ounces of stale bread or dry toast, thinly buttered. Four or five ounces of grilled chop, or sole, or chicken, or a little cold game, or a couple of eggs very lightly boiled.

At half-past eleven, a small cup of good beef tea should be taken, but nothing with it.

At one o'clock, three or four ounces of mutton or lamb, or of stewed sweetbread, or of game. Three or four ounces of cauliflower, asparagus, vegetable marrow, sea-kale, French beans, or of artichokes. A little tapioca custard, or milk pudding. Water, or a little brandy and water to drink.

At half-past four in the afternoon, a small cup of beef-tea, hot or cold, should be taken with nothing to eat.

Seven o'clock dinner. Some clear soup of any kind. A little fish, such as sole, plaice, brill, or smelts. Three or four ounces of mutton or lamb, or game, or chicken, or sweetbread. Vegetables as at lunch. Jellics. Tapioca or other farinaceous pudding. An ounce or two of dry toast, or, better, one or two of Blatchley's pepsine cracknell biscuits. To drink a little water, or a little cold brandy and water.

Before retiring at night, a tumbler of hot water should be taken, and if there is any desire for food during the night, a cup of cold, plain, well-made beef-tea would be best. This may be kept at the side of the bed.

The stomach that will not digest such a diet as this, must be in a very bad case indeed, and the victim should seek skilled advice at once.

Where wine is preferred to brandy and water, the wine should be either a very dry sherry, or one of the dry Moselles that I have previously recommended in this book. Where champagne is preferred, it should be of the driest description, but this is not a good wine for dyspeptics, as it is apt to cause flatulency. The action of the liver should be encouraged by riding exercise, and the body in cold weather should be very warmly clothed, as the predisposition to other more fatal diseases is increased when the system is not nourished by proper food. Above all things, let the sufferer avoid quack medicines ; if a proper system of diet is of no avail, it is a case for the skilful physician, and not for the haphazard remedies of the charlatan.

In atonic indigestion, which generally obtains as the result of an irregular mode of life, or hereditary weakness in this direction, or of an over-taxed nervous system, the digestion is slow and feeble, and this requires a particular line of dietetic treatment.

In this case the state of the stomach is shown by the appearance of the lips, gums, and tongue. They bear the impression of anything that is brought in contact with them, so that the tongue has the marks of the teeth along its edge, constipation is present, the urine is pale and of low specific gravity, the intellectual faculties are dull, there is no inclination for work. During such digestion as does occur, there is frequent regurgitation of food rancid with butyric acid, and the formation of gas gives rise to colicky spasm.

In this case a little brandy and water, or whisky, or wine, or even beer may be necessary and advis-

able with the meals ; but no person would be wise in attempting to treat this condition himself. The same applies to indigestion where it is complicated with gout, in which case also a particular line of treatment adapted to the merits of the case is imperative, for what would suit one individual, or one case, would be injurious in another.

The important consideration, of course, is to adapt the treatment to the cause. When this is remedied, the symptoms that cause the trouble pass off, and health is restored. The dyspeptic would do well to have a tepid bath on rising in the morning, and a good rubbing, as this tends to induce good reaction. The victim of indigestion should not do any work before breakfast, as the depletion of nervous power would tend to prevent the enjoyment of that meal, or the ability to eat and digest a good breakfast, which is important. Indeed, dyspeptics find that they cannot take early exercise without feeling tired, drowsy, and good for nothing for the remainder of the day. The reason of this is obvious ; as no food has been taken for twelve or fourteen hours, the nervous power is at a low ebb, and may be compared to a watch that has run down, and the system requires winding up, in this case with food. In indigestion from deficient nervous supply, the pain is very severe, and can be relieved by pressure. Dyspepsia in this form is accompanied by severe headache over the brows, and palpitation of the heart. In this case a cup of beef-tea before the early walk is the best remedy. Rum and milk is a bad one. An hour after breakfast the dyspeptic should take a ride or a walk, but he should on no account overfatigue himself. The exercise should be increased day

by day as the strength and digestive powers improve.

One of the commonest causes of indigestion in the female is tight-lacing, and in the male irregularity of meals. In the first place the different organs that are necessary to digestion are pressed out of place, so that they cannot possibly perform their functions properly. The result is persistent indigestion that leads on to such ailments as anæmia, hysteria, and other troubles that follow as a matter of course, and after a time, from the compression preventing the proper movements of the stomach, to vomiting and gastric catarrh. The debility induced often lays the foundation of consumption; especially in those who have an hereditary tendency that way. In all forms of indigestion, there is more or less mental disturbance and depression, palpitation of the heart, headache, giddiness, disturbed sleep, fearful dreams, flatulence, nervous pains in the chest, limbs, and head, and emaciation. As years roll on bronchial cough follows, and the "red nose," so characteristic of those who have injured the coats of the stomach by tipping, shows the deterioration of tissue due to the persistent congested state of the stomach in the chronic form of the disease. In the case of indigestion from irregularity in meals, the remedy is of course in a great measure dietetic, with regularity in taking the food. The stomach requires careful management for a time, as has been previously pointed out.

In those who seek to keep the digestive organs in a continued state of good health, a substantial meal should be taken for breakfast about eight or nine in the morning, a small lunch about one or two, and a good meal for dinner at about seven or eight.

It is needless to say that one of the most difficult forms of indigestion to treat, is that brought about by the habit of taking stimulants to excess, especially if between meals, and more particularly in the form of spirits. In this case not only are the coats of the stomach injured, but the nervous system, from which the stimulus for digesting food originates, is paralyzed, and the stomach has not the power to digest the food taken. Unless this habit is broken, the *end* is not far off, and it would be useless to attempt to lay down any rule of diet whatever in such a case. Even with abstinence, the stomach takes a long time to recover its tone, and a change of air and scene are about the best remedies, combined with a most careful management.

Mr. Blatchley, of 167, Oxford Street, London, has made, for my purposes, some pepsine and meat cracknells. In the making of these biscuits the flour is doubly cooked, and the starch granules are broken up, the result being that in this form a farinaceous article can be taken, where it otherwise could not. These biscuits will be found much better than toast, as the pepsine further materially assists in digesting them, and the meat extract makes them more nourishing to the nervous system. They will agree with the most delicate stomach.

According to Dr. Lionel Beale, two or three grains of pepsine will digest the lean of a mutton-chop; three or four grains would materially assist in digesting the whole of a meal. In this case the stomach is, as it were, saved the trouble, and by rest, has time to recover its tone.

Pepsine is a valuable aid in the dietetic treatment

of indigestion, and is, as is well known, prepared from the stomach of the pig.

It must be remembered that we live by what we *digest*, not by what we *eat*, and that we may eat a great deal of food, but assimilate a very little of its nourishment. This gives the stomach unnecessary work ; and, of course, when it is weak, or its secretions are disarranged, much food is out of place, and harmful. The object should be to choose food which is the most nourishing, and easiest digested, in the smallest bulk. More especially does this apply to the indigestion of elderly people, because, in their case, the nervous stimulus is waning, and the juices and movements of the stomach are slow and weak.

In conclusion, every case of this ailment should be treated strictly on its merits, and therefore skilled advice should be sought in the early stage. "A stitch in time saves nine" applies here with peculiar force. Indeed, it is not going too far to say it does in all cases of disease, caused by malnutrition.

CHAPTER XIX.

EXCESSIVE LEANNESS.

Hereditary tendency—Disposition influencing—Incompatible with strength—Excessive leanness a bar to insurance—Table of limit of weight to height—The stomach and assimilation—Leanness influenced by diet—Fattening the lean—Leanness incompatible with female beauty—Ladies of the harem—Toning up the nervous system—Large eaters sometimes lean—Uses of certain foods in the system—Aleohol in low vitality—Wines for the lean—General rules.

As I have pointed out before in this work, there is no doubt but that certain abnormal conditions of body are, to a great extent, hereditary ; but it does not follow that, under certain circumstances, a good deal may not be done to remedy defects in the system, that otherwise would influence the health, and seriously interfere with the length of life of the individual. For instance, excessive leanness, as a rule, is to a great extent hereditary, and a matter largely of temperament, but by no means is this always the case, as it is also due to defective dieting, in particular cases, from infancy upwards.

Disposition, it is true, has a great deal to do with the condition of the body. Those of a fretful and nervous disposition are generally lean, though

the leanness may not be sufficiently pronounced to come within the category of atrophy. Baron Liebig used to say that a restless pig would never fatten, and I suppose the same argument applies in the main to the human animal. Excessive leanness is a very unfortunate state of the body, as it is seldom that those, who are below a proper margin of weight for height are able to bear the same amount of fatigue, as those who are of normal proportions in this respect. There is a standard with regard to weight in relation to height, that the insurance offices accept as correct, and a deviation beyond this on either side, whether it is on the side of leanness or on the side of obesity, is not accepted at the usual rate. It shows that the individual is not in sound constitutional health, or as likely to live to the average duration of life, as one who is somewhere approaching the normal. On the side of obesity, on the one hand, an individual is more liable to congestive diseases, such as bronchial attacks, inflammatory affections and apoplexy; on the side of leanness, to nervous diseases, debility, consumption, undue fatigue, anæmia, and other indications of the deficient development of the muscular and nervous system.

Perhaps, for the benefit of those who are anxious to know what should be the correct weight for height, at adult age, and the limits on either side, I cannot do better than give the annexed table. It will be seen that a weight below the figures given in this table for height, at adult age, is not considered compatible with robust health. This table is not mine; if it were, I should give a higher rate by at least five per cent.

Height.				Weight.	
5 feet	...	...	...	6 stone	8 lbs.*
5 "	1 inch	...	...	6 "	12 "
5 "	2 "	...	...	7 "	8 "
5 "	3 "	...	...	8 "	0 "
5 "	4 "	...	...	8 "	7 "
5 "	5 "	...	...	8 "	11 "
5 "	6 "	...	...	9 "	1 "
5 "	7 "	...	...	9 "	4 "
5 "	8 "	...	...	9 "	7 "
5 "	9 "	...	...	9 "	10 "
5 "	10 "	...	...	9 "	13 "
5 "	11 "	...	...	10 "	3 "
6 "	0 "	...	...	10 "	8 "

Though, as has been before remarked, excessive leanness may be hereditary, there are many other reasons that may conduce to this state of affairs, and very often cases have come under my observation, where it has been due to causes remediable by scientific dieting.

The stomach is a very peculiar organ in the way it assimilates certain foods, and, added to this, there are certain constitutional idiosyncrasies that have to be taken into consideration with regard to leanness. We all know that certain foods conduce to the reverse condition of obesity, and we all know that there are certain individuals who may eat every kind of food, and still not become fat. The converse holds good with regard to the obese becoming lean.

Leanness may arise from the fact that the diet of the individual is not the diet that the system requires, and that often, from infancy upwards, he or she may never have been nourished by the food taken, in its constituents, or in the proportion that, from habit, or from inclination, or taste, the individual has taken them. For instance, there

* Compare this with normal weights on p. 132.

are certain foods, such as starches and sugars, that either directly or indirectly increase the deposit of fat in the system, and from habit, or from want of proper management in childhood, a sufficiency of these foods has not been consumed ; the result is that a habit of body has gradually developed, in which there has been a lack of the proper quantity of fat, and indeed, as a result, a lack of muscular development, as well as development of all the other tissues, that tend to make up what one may call a strong constitution, and a properly built frame and filled out figure.

It is, to a great extent, a mistaken impression, that a lean man or woman cannot be fattened. Really, it is in the female sex that excessive leanness is most disastrous in every way, for, as a certain amount of plumpness is necessary to beauty, a deviation below the standard of normal weight for height in the female is to be deplored. It is true that it is more difficult to fatten than to do the reverse, viz. reduce exceedingly fat persons to normal dimensions ; but, at the same time, a great deal may be done for a lean person. The process requires a considerable amount of management, as in those who are not in the habit of taking certain foods, especially such foods as make fat, if the amount is increased suddenly, it is apt to be diverted into other channels, and, instead of being converted into fat, be converted into bile, and set up biliousness, indigestion, and other unpleasant derangements of the digestive organs. The fact is familiar, that when an individual, whether it be male or female, meets with some accident, such as a broken leg, which necessitates complete rest in bed for two

or three months, a change takes place during this time in the constitution with regard to weight. A person may have been lean before, now suddenly begins to lay on fat. Indeed, hundreds who come to me for the reduction of obesity, attribute their condition to the very circumstance I am detailing. They had previously been fairly thin, or perhaps exceedingly lean ; but during the time they were confined to bed they began to lay on fat, and the stream having been, so to speak, set that way, it has gone on accumulating, even after they have got well again, and been able to take their usual exercise, in a way it never did before, until probably they have become so obese as to be absolutely obliged to seek some remedy for this equally unfortunate condition. Now, this simply shows that if a lean man or woman wants to get fat, the first thing to do is to rest. Indeed, I believe that there are physicians abroad who fatten ladies, who wish it, in this way. They are put to bed, allowed plenty of light literature, and fed on the most fattening things, the different organs being kept in working order by gentle aperients if necessary, and every day, to improve condition, a masseuse is employed for an hour, night and morning. They are kept in bed for this purpose for a month, and the result is that the scraggy, anæmic, weakly girl very often becomes robust and strong, and, needless to say, the personal appearance is very much altered for the better.*

There can be no beauty if there is not a certain amount of fat in the system. In the female as well

* Ladies in the Bey's seraglio at Tripoli are fattened against a certain day by means of repose and baths, assisted by a diet of Turkish flour mixed with honey.

as in the male, there can be no amount of stamina or capacity for hard work if there is excessive leanness. A wiry, thin person may be able to do a greater amount of work than any other; and this is so, all other factors being equal; but, of course, a wiry, thin person is not *excessively* lean. I may remark, while I am dealing with excessive leanness, that *want of condition* is exceedingly common in those with this constitutional defect.

One cannot altogether approve of the plan of increasing weight, on the system I have just been indicating, unless for exceptional reasons, which need not be mentioned here, as, in the first place, it is out of the reach of but very few; in the second place, there are not many who would submit to the restraint that it entails; indeed, they would almost as soon be put in an asylum for a month as, when in a state of perfect health, be kept in bed, unless such a thing were necessary for saving life, or as the result of an accident. My own experience in treating this condition—and I have had occasion to treat a great many—has been that it is best at first to considerably supplement the foods that give nervous energy, and increase the development of muscle and nerve and bone, and not to develop fat. I have found that after a time the result of this has been the development of fat, quite sufficient for the purpose of personal beauty or of health and comfort; and on a diet of this kind—that is, what is called a nitrogenous diet—the condition is very much improved in every way. A person who previously felt weak, was easily fatigued, slept badly, lacked appetite and energy—conditions due to mal-nutrition and to the fact that the food taken did not sufficiently nourish the nervous system, and

was not in proper proportion, or in constituents what their particular system demanded—suddenly develops into an energetic and robust individual. The reason for this is obvious.

The nervous system is the mainspring of vital action, and the health and strength of every organ, even of the brain itself, depend upon the food taken being food that nourishes this. A failure in this way entails general collapse. The food therefore should be adapted to this end, and the nervous system should be toned up and put in the most perfect condition possible. We all know that a proper note cannot be got out of the strings of a harp, unless the strings are wound up to a certain tension; but naturally this tension must not be carried on to an extreme, or the cord snaps. The same applies to the human body. The system should be wound up by diet, exercise, fresh air, and other rules upon which sound nervous and muscular health depend, and should be kept in good tone and condition. This is easily done; but, of course, it is a difficult thing to teach the ordinary reader how. The human organism is more complicated than the strings of a harp or a piano, and we all know that the ordinary individual cannot tune his own piano. The assistance of an expert must be sought. However, a few general principles may be laid down; one cannot do more; indeed, it is not wise to do this much, for people who try to diet themselves, break their own rules, or lack the resolution to go on, unless they are under proper guidance.*

* I remember once telling a Roman Catholic bishop that I made my patients see me or write me for this purpose once a week, to see that they were going by rule and not transgressing in any way. His reply was characteristic. It was: "Is not that a rather strong argument in favour of confession, doctor?"

I often have to advise people who are exceedingly lean, and who seem at the same time to lack energy. They seem perfectly healthy in every way, but the amount of work that they can do is very small, and if they exceed this and fatigue themselves, they suffer from headache, are martyrs to indigestion, likewise, from an inactive liver, to constipation, in fact, from everything that shows that the nervous system is starved. We all know what is the matter if we are sitting in a room lit by gas, when the light gets weaker, and, in spite of turning the tap on, no improvement takes place. We say at once *the pressure is off at the main*; and so it is. And the same applies with regard to condition, under the circumstances I am detailing.

The nervous system is not properly nourished, and therefore the powers of life are at a low ebb. The pressure is off at the main, and the only way to remedy this is by adapting the diet so that the nervous system shall be toned up, and, to apply the metaphor again, the "pressure should be put on at the main."

Now to do this, as I said before, the best plan is to live on a diet that conduces to muscular and nervous energy; and whether the individual is of sedentary or of active habits, *for a time*, at least, he should increase considerably the amount of animal food—fish, meat, game, etc.—on what has previously been taken, with the addition of a cup of good soup or plain beef-tea at lunch and dinner. At each meal as *much* animal food—meat, fish, game, etc.—as can be eaten should be taken, with, strange as it may appear, a *smaller* allowance of farinaceous food and vegetables. A fair amount of walking, or riding, or other outdoor exercise, should be

indulged in, but never to the extent of fatigue. This should be increased from day to day, as the muscular and nervous power develops, until six or seven miles of walking exercise is done daily, or, if riding exercise is taken, which is in many ways better for the purpose, until twelve or fourteen miles a day can be done with ease, and all should be done under the guidance of a physician in whom the patient places confidence.

Of course there are many other modes of exercise, according to climate and circumstances, that are useful in their way, as, for instance, tricycling, golfing, skating, cricket. These are among the best. Football and tennis are more applicable when the constitutional stamina is considerably increased, as violent exercise, before the system is toned up, is by no means desirable. After a time, especially if the individual's occupation is one consisting considerably in outdoor work, fat, cream, sweet wines, farinaceous puddings, etc., may be indulged in to the extent the system will properly assimilate. It must always be remembered that it is not the quantity of food that the man or woman eats that does the good; it is the quantity that is digested and taken up by the system. Many very large eaters, indeed, are thin, and for this simple reason—that the food they take is not utilized. It is not the kind of food that the system requires, and therefore it is rejected and wasted. The wheels of a cart may be greased, but the mechanism of a delicate instrument, such as a watch or clock, must be lubricated with the finest oil.

To illustrate what I mean with regard to food, it may be put in this way. A person of ordinary

size, weight, and height, say 5 feet 7 inches in height, and eleven stone in weight, doing ordinary physical work, may consume with advantage, assuming that the system is in proper working order, in the twenty-four hours, one pound and a quarter of bread, one pound of meat, and a quarter of a pound of fat or butter. This food is scientifically correct in its constituents, and contains the exact amount necessary to keep up health and strength, and to maintain the waste of tissue in every way. Of course a diet of this kind would be too monotonous, and would be one, such as could not possibly be carried out in daily life, and I merely mention it to show the exact elements necessary to sustain the body in working order and in proper health. Anything more than this would be wasted. We all know that if you want to boil a kettle you require a certain amount of fuel to do it; and if to boil a kettle with a quart of water we make a very large fire there is unnecessary waste of heat. It is the same with the human system. A certain amount of work takes a certain amount of food, and if more than that amount of food is taken, in any of its particular constituents, it is wasted. Now the particular action of the three foods specified are—thus, to begin with, take the meat. The action on the system of the meat is to supply nerve, muscle, and bone, and nervous energy. The use of the bread and the fat is to supply food that keeps up the heat of the body, and therefore prevents waste of tissue in this way. It will hence be plain to the ordinary reader—and of course this is not a medical work, but a work that I trust can be understood by the general reader, as it is for his guidance—that if you want to increase energy,

you must for a time increase the meat part of the diet ; and my experience teaches me that the first thing necessary in endeavouring to strengthen the constitution and to fatten a lean person is to increase the amount of animal food. After a time this should be decreased, and then as much fat meat, butter, cream, cocoa, chocolate, potato, bread, farinaceous and custard puddings, oatmeal porridge, and sugar ; stout, ales, and sweet wines should be taken as the individual can assimilate. .

Should the quantity consumed be a little too large, and a slight derangement of the digestive organs occur, it must be decreased, or an aperient in the form of "Franz Josef" mineral water, or something of that kind, may be taken for two or three mornings, and then the process repeated. Many derive great benefit from taking a table-spoonful of cod-liver oil twice a day, but there is no need to do this if butter and cream can be taken in sufficient quantity.

The stomach soon accommodates itself to the assimilation of fat, where the nervous system is primarily strengthened. However, a change in diet for the purposes indicated should be conducted with discretion and under proper guidance. The reason for this is obvious.

To attempt at once to take fattening food in great quantities would undoubtedly lead to indigestion, biliousness, and every other unpleasant ailment mentionable.

The action of the skin should be kept up, and for this purpose it is a very good plan to use Crutchloe's "Massage Rubber" for a quarter of an hour night and morning (dry rubbing). This

rapidly circulates the blood, and, bringing it to the surface, assists in *oxidizing* it.*

A note of warning should be sounded with regard to alcohol in any of its numerous forms. There is no more fatal habit than the habit of taking alcohol as a stimulant, in the state of constitution indicated here. The nervous system, where the condition and vitality are low, can bear but the smallest amount of stimulant in this form. Alcohol *seems* to give strength, but there is always a greater depression after. A strong person can bear a large amount, sometimes for many years, with impunity ; but a very lean person, or a person out of condition, or a person whose food is not properly adjusted to the requirements of the nervous system, can bear but a very small quantity indeed. Anything in the way of spirits to such people is poison. The best stimulants are those that tend to increase tissue, and are well diluted, and of low alcoholic strength, such as the light wines of Italy, or the sparkling Moselles of the Rhine district, or, in strict moderation, the heavier and more feeding wines of Spain and Portugal—port, sherry, etc. Malt liquors, where the digestive functions are active, are always fattening. A glass of stout or ale at meals may be taken with advantage, but the smaller the amount of stimulant taken the better. A good strong cup of beef-tea to such people is better than a glass of wine, if they could only be made to believe it. The one really stimulates and strengthens permanently, while the other stimulates only for a

* This appliance may be bought at the Stores, or at any chemist's, or of the patentee, Mr. Crutchloe, Albert Mansions, Victoria Street, Westminster.

time. After the one there is increased strength, and after the other there is reaction and a depression of nervous power.

No man is a good judge of his own constitutional requirements, so perhaps it would be better if he were to seek the advice of some one in whom he can place reliance, and be guided in this respect. At least, this is my advice to such people, and I believe it is good advice. There is a beneficial potential energy in the constitution that is often not brought out or developed. It is there; but for some defect of management in early life, or in diet, or in environment, it lies quiescent. This potential energy may be resuscitated and developed into active energy, and it can be done on the lines that I have indicated. There is unquestionably such a thing as building up the constitution, and many a man crawls through life who should be able to run through it. Many an individual perishes in early years where, by the aid of science as applied to diet, he might live and enjoy the most robust health to extreme old age; and many in both sexes, as every physician can testify, commence the fatal habit of taking stimulants to excess from a feeling of debility, due to the fact that their weakness and consequent leanness arises from a wrongly constructed dietary, that from the first permanently starves the nervous system.

CHAPTER XX.

CONSTIPATION.

Common cause of—Classes most troubled with—Causes very numerous—Main Causes—Carelessness and indolence inducive to—Action of the bowels should be encouraged—Purgatives, injurious in childhood—Duty of parents—The most sensible remedy for constipation—Symptoms of constipation—Venous congestion from—The cure of constipation—Diet for—Liquids for—Tea and coffee injurious in—Massage beneficial in—Constipation in old people—Cooked fruits in—Depressing effects of—Proper treatment of.

CONSTIPATION is a common cause of trouble and annoyance in those whose pursuits are sedentary and luxurious, and, indeed, more or less so among all sorts and classes—more particularly in the higher ranks of life. It means that there is an imperfect, irregular, or insufficient action of the bowels. It is especially troublesome, and a source of daily discomfort to those who live by intellectual work. Professional men—lawyers, literary men, and editors, both male and female—who naturally have to sit a great deal, are great sufferers; and it is not unfortunately confined to this class alone, but to many others in the ordinary conditions of life. Indeed, it is a rare thing to see a shoemaker, or a tailor, or other artisan, whose employment is mostly indoor, with a good colour and a healthy appearance; and this is largely due to constipation.

The same applies, with more or less force, to all those whose habits are sedentary. Constipation is the bane of some people's existence, and from heredity or faulty mode of life, both the idle and the industrious of every age and condition suffer more or less from this state.

The causes of constipation are really very numerous indeed in their origin; but, as a rule, the greatest cause is improper food, a faulty diet, in which fat and fluid are not taken in sufficient quantity, and insufficient exercise, leading to a relaxed state of the muscular system and general want of tone. This state of affairs tends to insufficient mucous secretion, and to want of contractile power in the muscular tissue of the bowels, which keeps up what is known as their peristaltic action. Beyond this, to a certain extent, there is no doubt that some people—especially those of the phlegmatic temperament—inherit a naturally sluggish state of the system, and hence of those organs that materially assist in keeping up a proper action of the bowels.

Constipation is often increased and made more troublesome by habits of carelessness and indolence and inattention to the calls of nature, and thus it becomes second nature and a lifelong difficulty. The action of the bowels should be encouraged daily, at a regular hour, by all those who wish for future comfort; but often in early life, through inattention in this respect, the bowels naturally get into bad habits. In fact, the different organs of the body are quite as liable to acquire bad habits as the owner of them is, and once acquired they persist with equal obstinacy. Much of the trouble in after-life, due to this condition,

lies at the hands of parents, who do not teach their offspring their duty in this respect, but prefer to treat the constipation that arises, and which is the cause of much disease in early life, by dosing their children with all sorts of drugs and quack medicines. This is a fatal recourse and a most unjustifiable one, for the bowels for the remainder of life look to the stimulus of a purgative when they should act according to the dictates of nature.

The most sensible remedy for constipation in early life is a properly adjusted system of diet and exercise. Fat should form as large a portion as the stomach can take, and for the same reason, in those who can digest them, farinaceous foods are useful, more especially those that contain a large percentage of fat.

Thus—

Fine wheat flour	contains	2	per cent.	of fat.
Bran of wheat	"	6	"	"
Scotch oatmeal	"	8	"	"
Indian corn	"	8	"	"

It will therefore be obvious that certain farinaceous substances are more suitable in this ailment than others. Especially in childhood.

Chronic constipation gives rise to a large amount of bodily and mental discomfort. Indeed, there is no condition that causes more unpleasant symptoms, more especially where it is due to a mode of life which precludes proper diet, systematic exercise, and healthy surroundings, complicated perhaps with the addition of a naturally sluggish action of the liver.

The commonest symptoms of habitual constipation are bodily and mental depression, constant

headaches, uncomfortable feelings of distension, coupled with loss of appetite, dry skin, attacks of nausea, and inactivity of the different organs of the body. The complexion of the victim is almost always sallow and unhealthy, and the breath unpleasant.

In the sedentary female, continued constipation often leads to attacks of hysteria, and indeed conditions bordering on insanity may be brought about by persistent, improper, and insufficient action of the bowels. Melancholy, and great depression of spirits, are some of the commonest results, and a good ruddy complexion is impossible in a sufferer from persistent constipation. This is due to the fact that in constipation the contents of the bowels are to a certain extent re-absorbed into the system, and therefore, of course, lead to a continued state of deteriorated health.

The pressure on the veins of the bowels, that constantly contain more effete matter in them than is natural or right, impedes the return of blood from the lower extremities, and in this way causes cold feet and frequently such ailments as piles, varicose veins, leading to ulcers on the legs, and other indications of impeded venous circulation. In this case the constipation and inactive state of the bowels require the first attention.

The relief of constipation naturally resolves itself into a question of diet and exercise. The diet should be adapted to the requirements of the system, and to improving muscular and nervous tone, and plenty of outdoor exercise should be a *sine quâ non*. The best of all is undoubtedly brisk horse-exercise, as this calls into play more particularly the abdominal muscles, which by their

pressure on the bowels and liver stimulate their action.

There are many other forms of exercise for those unable to enjoy this, and those which bring the greater number of the muscles of the body into play are the ones which are more particularly called for. It is seldom that a person who leads an active life, lives moderately, and is in good condition, suffers from constipation.

A mixed diet, with plenty of green vegetables, stewed fruits, oatmeal porridge, and puddings made with Indian corn meal, is indicated in this case, if there are no particular reasons why they should not be taken. Foods of a farinaceous kind, naturally, cannot be taken to any great extent by those inclined to corpulency, as that would only make matters worse, by leading to a state of affairs that would be as uncomfortable as the ailment they were meant to remedy. Really each case of constipation needs to be treated on its merits, having regard to the particular habits, requirements, and idiosyncrasies of the sufferer, and his or her mode of life. In this way rules can be laid down that any sensible person would comply with, and a system of diet formulated in accordance with the individual requirements. This would obviate the constipation and the various ailments that follow in its train.

Now with regard to wines and other alcoholic beverages. The best to drink are those that contain no tannin or sugar. It is a matter of surprise why people who are subject to constipation should drink claret, and still hundreds who come under my observation drink this wine, though they may be martyrs to it. Claret, as is well known, contains

a large amount of tannin, and cheap clarets, from the amount of logwood used to adulterate them, a *very* large amount ; hence this is, of all wines, the one people who suffer from constipation should not drink. There are plenty of wines suitable for such people, as the dry Moselles and others, which contain none of this deleterious ingredient.

I know of no better or more harmless remedy for constipation than a tumbler of hot water night and morning to which a little lemon-juice has been squeezed or tamarind added to make it more palatable. Not only is hot water taken for this purpose beneficial, but it also at the same time carries off the unhealthy secretions that may have accumulated in the stomach during the night, and enables this viscus to begin the day, at all events, clean and ready for work. More than this, it stimulates the flow of healthy gastric juice when the meal is taken.

Those who suffer from constipation should drink tea and coffee in strictest moderation, and, if they are not of a corpulent habit, begin each day with a dish of porridge for breakfast. Wholemeal bread is also exceedingly beneficial in the same way, as it acts as a mechanical stimulant to the mucous membranes of the bowels.

Rubbing and kneading the bowels before rising in the morning assists in stimulating their action. In kneading the bowels the process should begin at the right groin and slightly up the side, and then across the bowels and down to the left groin so as to make a complete circle.

The "massage rubber" so repeatedly recommended as an adjunct to health has been found exceedingly useful in constipation. The use of it

tends to improve the muscular system and the general state of health. This is important in any state, where there is a sluggish condition of any organ that eliminates waste.

The dietary of old people suffering from constipation should contain plenty of fluid and a fair allowance of fat and butter. Meat should not be taken in too concentrated a form ; there must be bulk ; and where they can be digested, plenty of vegetables and fruit should form part of the meal, and the bowels be coaxed to act a regular hour every day.

Baked apples, stewed prunes, Normandy pippins, and other acid fruits, cooked or uncooked, where they can be taken, are advisable, and grapes, pears, cherries, strawberries, gooseberries, etc., are beneficial. Meat and bran biscuits are also made by Mr. Blatchley of 167, Oxford Street, London, at my suggestion, for this purpose, the bran acting as a mechanical stimulant. A little stimulant may be taken in the form of whisky, or of light dry Moselle wine, diluted with Kalzmar water, in the case of those who can afford to indulge in table-waters of this class. In this way, waters containing a slight amount of antacids can be pleasantly taken, and with benefit. Weak brandy-and-water will suit where effervescing waters disagree.

To ensure health and comfort, the bowels should act once a day. It does not matter particularly at what time, but it is always a good plan to acquire the habit of its taking place directly after the first meal. This habit should never be broken through. Troubles of all kinds will most certainly be the result of carelessness in this particular, and very often serious mischief may be the outcome of

disregarding it, especially at, or after middle age.

The sufferer from constipation may go on with his daily work, as thousands do, but it is done, as it were, against the grain, and not with the zest and energy that accompany the pursuits of life when all the organs of the body act with the vigour they should.

The mental state sympathizes with the bodily condition. In chronic constipation, owing to the capillary circulation being sluggish and the blood not circulating with due rapidity through the brain, the intellect becomes dull, and the nervous and muscular systems perform their functions without vigour. The sleep is not refreshing, and there is a want of elasticity of mind and body.

Naturally this condition often induces the sufferer to fly to the thousand and one quack purgative medicines advertised, for the cure of this and every other ailment under the sun, and these increase the evil and impair the health still more.

To conclude. The proper and most successful treatment of this condition must be by an adjusted dietary, the morning cold bath, fresh air, exercise, and other adjuncts that improve the general health and the tone of the muscular system, modified according to age and other contingencies as circumstances demand. In this way the peristaltic action of the bowels is stimulated and a natural result attained.

CHAPTER XXI.

THE BILIOUS TEMPERAMENT.

Importance of the liver—Its influence on health—Its action on food—The liver a blood purifying gland—Bilious temperament hereditary—Symptoms of inactive liver—Action of alcohol on the liver—How to induce disease in—The Strasburg goose—Improper food in the bilious—Treatment of inactive liver—The influence of exercise—Biliousness in the sedentary—Biliousness from improper food—Stimulants in—Podophyllin useful.

IN a former part of this book the bilious temperament was touched upon as illustrating a certain type of individual, and undoubtedly there are some, who come more under this designation, than others. From time immemorial the liver has been considered the most important organ in regard to our well-being, and its healthy action as necessary to mental, as well as to bodily health. The Chinese attribute the different feelings and sensations that we do to the heart, to the liver, and with perfect correctness, for the time-honoured notion that the heart influences the mental processes is entirely erroneous. The converse may occur.

With regard to the liver, there is no doubt that the brain, and hence all its emotions of joy, sorrow, or depression, is directly influenced by its agency, for the simple reason that the purity of the blood, and

therefore its influence on the brain and nutritive processes of the body, mainly depend on the proper action of the liver. The food that we eat we know is principally digested in the stomach, but the vessels that take up that nutriment to the system, do not pass to the heart, but to the liver, and in the liver their different constituents are divided and undergo changes, and thence pass into the circulation, and are carried to the heart. Indeed, the blood that is carried to the heart is to a great extent purified by the liver. If the liver from any cause does not do this, the result is that a fluid, impure in its constituents, is distributed throughout the system and injuriously influences the action of every organ of the body, and, certainly most of all, the brain. We know that the word "melancholy" is derived from the two Greek words *melas* (black) and *chole* (bile), and the retention of this fluid in the blood was supposed to cause melancholy. Indeed, there is no doubt that the ancients were, in the main, right, for the depression induced by an inactive liver, is well known to those who suffer from it.

To a certain extent the bilious temperament is hereditary, more particularly so in the lymphatic constitution—a temperament in which all the different organs of the body perform their functions sluggishly. In such people, though the digestion is often good, as they eat and drink freely as a rule, and are indolent and easy going in habit, and do not take sufficient exercise, the indulgence in more food than the system requires throws an unnecessary amount of work upon an organ that is not capable of doing it, hence leading to its derangement and engorgement. People of gouty

diathesis are exceedingly prone to derangements of this organ, and its consequent inaction tends to retain in the blood products that should be eliminated, and the retention of which leads to attacks of gout in its acute manifestations.

The symptoms of an inactive liver are known to most people. They are headache, disinclination for mental or physical exercise, depression of spirits, sleeplessness, loss of appetite, and constipation. These are symptoms not necessarily due to *disease of the liver*, but to an *inactive* liver, or a liver that is gorged with blood and waste, by excess of food and insufficient exercise to carry it forth. It must be understood that this state of affairs does not mean disease of the liver, before middle age, or may be to its close.

There are numbers of diseases that come on during middle age that arise from errors in eating and, more particularly, in drinking, connected with the liver, but these will not be touched on here. They are of more serious import, and require special treatment. They depend upon changes in the structure of that organ that interfere with the passage of blood through its vessels. Even these are greatly influenced by diet and rules of life, and life may be prolonged and certainly made more bearable under these conditions.

What it is desirable to show here is, that there are certain derangements of the liver particularly due to hereditary causes, and others peculiarly due to improper food and drink, and that these, troublesome though they may be, are easily amenable to proper treatment in the way of diet. The food that we eat for the processes of nutrition is of various kinds, as all know, and when it is

taken into the stomach it is there digested into complex forms of nourishment, suitable for the different tissues it has to keep in daily repair. Certain processes of digestion, however, go on after the food has left the stomach, and the different organs that utilize it for the wants of the system. When what the system requires is absorbed, the unused waste is disposed of by means of the liver, the kidneys, and other organs, all of which have their respective share of work to do.*

Of course the great secret of healthy digestion is that the food shall be so apportioned that each particular organ shall have its proper share only to dispose of. The ordinary mode of life of different individuals does not promote this, and the result is that certain organs have to eliminate more than their share, and, as may naturally be supposed, they now and again become overworked and tired, and refuse to perform their functions. It is, however, quite plain that if an individual is born with a sluggish liver, that is, a liver that does not work with due vigour, a certain amount of care should be taken that those foods, the elimination of which depends upon the liver, should not be taken in too great quantities; and therefore it comes to this, that if a person of a bilious tempera-

* What over-feeding and want of exercise will do for the liver is illustrated in the case of geese fed at Strasburg, to make the "pâté de foie gras" so much appreciated by epicures. This is made from the liver of the goose. The wretched bird is confined in a small coop, not large enough for him to turn in, in a hot, darkened room, and is crammed with maize and fattening food. The result is that the liver rapidly becomes diseased and enlarged until it weighs two or more pounds; to prevent the bird dying from the oppression in breathing induced, he is killed. Every mouthful of this delicacy, represents enough agony, to satisfy the cruel instincts of a Nero or a Caligula.

ment wishes to enjoy health, he must avoid in excess those articles of diet that throw too much work upon the weak organ. Of course the skill of the physician entirely depends upon his considering these things and the peculiarities of constitution and temperament in the patient, for certainly the individual himself seldom studies them, or is capable of understanding what food his particular constitution requires, and hence he frequently goes wrong, and this from want of knowledge of the capabilities of the different organs in his body to utilize the food given them.

It may be asked what are the foods that throw too much work upon the liver. Broadly speaking, they are rich and highly-seasoned dishes, pastry, foods rich in fat, such as salmon, rich sweets, cream, milk, sugar, sweet wines, such as champagne, Maderia, and so on.

The successful treatment of an inactive liver depends entirely upon two factors—regulated diet and exercise. Now there is no condition that comes under the notice of the physician or dietitian where drugs in the form of purgatives have been so injurious or so ephemeral as in the treatment of the bilious constitution. It is a very easy thing for the inexperienced to fly to the aid of a pill that for a time, by stimulating other organs, carry off excess of bile in the system. This may temporarily relieve the congested state of the liver, but the action of this is only transitory. It acts as a spur does to a tired horse, and with the same results. The proper treatment of an inactive liver is dietetic; that is, that the food taken should be nourishing, and of the kind that does not throw too much work upon an organ that is incapable of

bearing it. Therefore the victim of an inactive liver should live on the lighter kinds of fish, meat, game, green vegetables, and fruit. Of course each individual constitution requires certain modifications in its management, and it would be impossible to draw out a form which would suit all cases alike.

To begin with, the active and the sedentary require totally different diets, for the simple reason that an active life burns up by other channels, such as the skin and the lungs, products of excess in food, that otherwise fall upon the liver to deal with. There are certain parts of a clock or an engine that are made stronger than others, as we all know, for the simple reason that they are called upon to do more work. But Nature does not deal with the human mechanism in this way. Barring hereditary or congenital defects, all the organs are of the same healthy construction, and adapted to their requirements; but what Nature *ordains* and man *does* are two different things, and hence discomfort, disease, and premature death.

Another important factor in the treatment of the bilious constitution is exercise, and without exercise there can be no proper action of the liver, or any organ of the body. The form of exercise that stimulates the liver is one that calls into play the abdominal muscles. The bile is a fluid that is secreted under low pressure, and therefore to keep the liver acting, it should be subjected to pressure by the abdominal muscles. This is best done in the form of riding, when these muscles being brought into play, press upon the liver, and by circulating the blood through it, pleasantly stimulate it into vigorous action. Walking exercise, unless

it is exceedingly vigorous, does not much assist the liver, and therefore it is well in those of this constitution to endeavour to choose those exertions that do, such as rowing, riding, different forms of gymnastics, tennis, fencing, etc.

As liver derangements of this kind seldom become troublesome, much before middle age, these exercises are more particularly mentioned as coming within the reach of middle-aged and elderly people. In early life, of course running, football, boxing, and many other more violent exercises may be indulged in to advantage. It is unfortunate when those of a bilious temperament have to earn their daily bread by a sedentary occupation, as the tendency to depression from effete products in the blood becomes more aggravated in them. The already sluggish liver grows, as life goes on, more and more inactive, and the victim less able to take exercise to the amount necessary to keep him in good health. The blood, therefore, is always overcharged with waste, and hence the individual never feels either bodily or mentally energetic. Indeed, it is a wonder that such a person should be able to live at all, for at every meal we take in enough food to form an amount of poison, sufficient, if it was at once poured into the blood, to destroy life; but happily the mechanism of the human body is so elastic in its capabilities, and Nature has ordained that the different organs shall so well help one another, that where more work is thrown upon one than it can bear, another is ready to take its place and assist it. For this reason, exercise, by circulating the blood, stimulates not only the liver, but also other organs into active work, and if the liver is incapable of dealing

with the waste and the work thrown upon it, the kidneys, the skin, and the lungs come to its assistance.

My own experience, after thirty years' practice in the treatment of disease, is, that many people live half their lives on a diet that is utterly unsuited to them in every way, and more particularly does this apply to the bilious. Where this occurs it is really more from ignorance than from wilfulness, and there is no earthly reason why a person should persistently eat certain foods and drink certain fluids that give him no pleasure and lead to continued ill-health, and a constant feeling of inability and disinclination to do sedentary work, or any other work for the matter of that.

Individuals of this type never feel the cheerful stimulus that work entails, and are often apt, with even their limited duties, to seek the aid of stimulants to compass the dull routine of life. Among the luxurious and wealthy of both sexes, an inactive liver often leads to ennui, and a state of mental health bordering on insanity. Life loses its zest, and every pleasure becomes a burden. There is the ability, as far as wealth is concerned, to enjoy it, but there is not the wish or the will.

In these cases a week's correct dieting once or twice a year has an extraordinary effect. It consumes the accumulated waste, and stimulates the liver into vigorous action, and thus brightens the whole being. The fire of life burns again, as brightly as that within the grate does, when the chimney is swept. Indeed, as previously pointed out, a system full of waste products is like a foul chimney, and like a foul chimney it wants sweeping.

The action of alcoholic stimulant in inactive liver may be beneficial for a time, though eventually, in all its forms, it is disastrous. It stimulates the liver temporarily, but gives it more work permanently, and so alters its structure after a time, that it is unable to do any work at all. One cannot go so far as to say that a little stimulant is injurious to the bilious, any more than it is to any one else, but a good deal depends upon the form in which it is taken. A tablespoonful or two of whisky, two or three times a day, in a little Kalzmar water would be its least injurious form ; but in the form of port, sherry, champagne,* and sweet wines, it is simply poison to the bilious individual. They convert the bilious constitution very quickly into the gouty as well, and as the liver is unable to carry off the waste of certain foods, they become converted into uric acid, and therefore from time to time manifest themselves in the form of gout and rheumatism.

To those of sedentary occupation, who cannot take the amount of exercise necessary to keep the liver in order, and who will not take the trouble to learn what diet is best suited to their particular idiosyncrasies, an occasional small dose of podophyllan may be beneficial, and this certainly is the most harmless liver stimulant that can be taken ; but as has been pointed out before, and cannot be repeated too often, those states of the system that depend upon improper diet and an inactive life, can only be cured by proper diet, and some exercise or other that more particularly influences the organ under consideration.

* This does not apply to the sugar free champagne "absolú" previously mentioned, but to ordinary champagnes and other sparkling wines that are loaded with sugar, and sweet liqueur.

CHAPTER XXII.

BRIGHT'S DISEASE.

General causes of—Commonest in the intemperate—Deleterious effects of “nipping”—Its influence on liver and kidneys—Tabulated statistics of—Degeneration of tissue caused by—Frequent cause of deaths in middle age—Chronic Bright’s disease, symptoms of—Dangers of—Treatment of Bright’s disease—How to prolong life in.

THERE are certain diseases due to immoderate eating and drinking, and more particularly drinking in *early life*, that develop towards the close of middle age. The seeds of the disease, if one may so express it, are sown a great many years before they bear fruit, but when the fruit ripens, it means that existence is drawing to its close.

It is a melancholy fact that thousands die every year in the prime of life—thousands who do not for a moment consider themselves drunkards—from the habit on every occasion, between meals and with them, of taking “nips” of wine or spirits. Few seem to be aware that the same amount of stimulant taken in small quantities, frequently, and on an empty stomach, is more injurious, and tends far more to shorten life than the same quantity taken with meals.

“The deleterious effects of nipping,” says Dr.

George Harley, "on the bodily functions are so insidious, as, in the earlier stages, either totally to escape detection, or what is more common, to lead them to be attributed to some entirely different cause." One may characterize death from alcoholic excess as really *suicide by instalments*, and the returns of the Registrar-General point out in no ambiguous language the exact organs of the body that are most affected by "nipping," and the relative proportions of the deleterious influence it induces in each of them. The liver and kidneys are the two organs that suffer most from the after effects of alcohol—if we except the brain and nervous system—so we will take the death-rate of men between the ages of twenty-five and sixty-five suffering from disease in these organs.

Men exposed to the temptations of "nipping."

	Liver diseases.	Kidney diseases.
Commercial travellers ...	61	44
Brewers ...	96	55
<i>Innkeepers, publicans, vintners,</i>		
<i>barmen, and waiters</i> ...	240	83

The comparative death-rates of men of the same age *not* exposed to the temptation of "nipping" are as follows :—

	Liver diseases.	Kidney diseases.
Gardeners and nurserymen ...	18	39
Printers ...	28	30
Farmers and graziers ...	41	31
Drapers and warehousemen ...	35	37

The following return is appalling, for it shows the deaths from liver disease proportionally in different industries between the ages of twenty-five and sixty-five. It is taken from the returns of the Registrar-General, classified by Dr. Harley. They

exhibit the terrible evils of "nipping" in the strongest light.

Bookbinders ...	...	...	...	...	...	3
Hatters ...	...	...	...	...	...	9
Druggists ...	...	...	...	...	...	18
Butchers ...	...	...	...	...	...	21
Brewers ...	...	...	...	...	...	42
Booksellers ...	...	...	...	...	...	4
Tobacconists ...	...	...	...	...	...	10
Gardeners and miners	..	...	...	...	...	22
Fishermen ...	...	...	...	...	...	22
<i>Innkeepers, publicans, waiters, and barmen</i>						197

The result here shown is so startling that the Registrar-General not inappropriately designates it as "appalling."

The deaths from disease, induced by "nipping," are more than fifty times as frequent in publicans as in bookbinders, taking the deaths of the same number of people in each trade.

That, after the liver and kidneys, the brain should be the next organ in the body that suffers most from the injurious effects of alcohol, when repeatedly taken in small quantities at a time, is no more than could be expected, and is shown thus :

Men exposed to the temptation of "nipping"—

					Diseases of the brain.
Commercial travellers	...	...	...	...	139
Brewers	...	...	...	...	144
Innkeepers, publicans, wine, spirit, and beer dealers	...	...	...	...	200

Men not so exposed—

Gardeners	..	...	...	...	63
Farmers	...	...	...	...	81
Printers	...	...	...	...	90

As "nipping" has the effect of causing what is

known as "fatty degeneration of the heart and large blood vessels," it is no wonder that those who indulge in it die suddenly from heart disease more often than temperate people, and this is how Dr. Harley shows the truth of this fact.

Those not exposed to the temptation of "nipping"—

						Diseases of the brain.
Drapers and warehousemen	...	...	...	...	...	75
Gardeners and nurserymen	...	...	...	...	...	82
Printers	...	...	...	...	...	93

Those exposed by their avocations to the temptation of "nipping"—

						Diseases of the brain.
Commercial travellers	...	...	...	...	...	100
Waiters and barmen	...	...	...	...	...	146
Brewers	...	...	...	...	...	165

The degeneration above referred to, in the structure of the blood vessels and their consequent weakening, is a frequent cause of apoplexy in middle life. Apoplexy being due to rupture of a blood vessel on, or within the brain.

The mischief that has been done in early life in the case of tipplers, more particularly in disorganization of the structure of the kidneys, that eventually leads to Bright's disease, is irrevocable, and, to a great extent, irremediable ; but the length of life that is left may be very much prolonged by a careful mode of living, with regard to diet and fluids. In fact, the existence of a person suffering from Bright's disease entirely depends on proper care in diet, and, to a great extent, in limitation of stimulants, and the form prescribed. Warm clothing

next the skin is essential, and freedom from cold should be carefully guarded against.

The tendency in Bright's disease, a disease that often creeps on for years unobserved, is to foster such maladies as inflammation of the lungs, carbuncle, persistent indigestion, dropsy, and other indications of diseased tissue. This being the case, the different organs do not perform their functions properly. The result is that the system becomes loaded with waste of different kinds, as the kidneys do not eliminate it, and this lays the individual open to attacks of congestive diseases, such as have been enumerated. Exposure to cold, by driving the blood from the surface inwards, increases the tendency to congestive diseases, thus the individual to avoid this danger should live, when possible, in a warm and equable climate.

Probably five out of the six of those that die towards the close of middle age from Bright's disease—and this applies to both sexes—lay the foundation of it after they have arrived at adult age, by excess of different kinds, but more especially alcoholic excess. The tendency, as has been repeatedly pointed out in this work, in those who go on taking alcohol beyond the amount that the system can assimilate, is to cause a deterioration of tissue in all the different organs of the body. For a time their activity is increased, and they become enlarged, and when this occurs the blood runs briskly through them in its different channels, and the organs work at high pressure; but after a time a change takes place, and there is atrophy of the different organs affected, and then the blood-vessels naturally become smaller and smaller, and as the blood cannot pass through them, it stagnates and

remains unpurified in the system ; hence, as pure blood is absolutely essential to healthy life, there can be no healthy action of any of the organs of the body, and we all know what this leads to.

When this state of affairs exists, and Bright's disease becomes chronic, there is naturally difficulty of breathing on exertion, as the blood cannot properly pass through the lungs, and is not thoroughly oxygenated in them ; thus the heart has to labour more to propel the blood through the diseased tissue, which, as a matter of course, causes engorgement of that organ, so that a person suffering from chronic Bright's disease is in a constant state of ill-health, and lives as if he were on the brink of a volcano. As the disease advances, the arterial coats degenerate further, and become brittle, so that there is a greater tendency to their rupture, and hence to an attack of apoplexy. The victim of Bright's disease should avoid excitement, hurry, passion, violent exercise, and anything that rapidly tends to increase the action of the heart, for the sudden strain may lead to rupture of a blood vessel, and suddenly terminate life.

Another result of this change from healthy to unhealthy tissue is that the different organs require stimulating to perform their functions, and though there are many medicines for this purpose, and some of them doubtless assist in relieving the difficulties that arise, still the most important indication is to provide the body with nourishment that is easily digested, and that tends to improve the condition of the blood and increase the muscular and the nervous energy. In a recent case of Bright's disease, complicated with corpulency, under my care, a reduction of four stone in weight, by

improving the general health, condition, and tissue of the kidneys, was of the greatest service.

It used to be considered that meat in its different forms, by being supposed to throw more work on the kidneys, was therefore injurious in Bright's disease; but Dr. Chambers and others hold a different opinion, and my experience is that meat and concentrated nourishment is most suitable in this disease, when it is properly chosen and apportioned in its constituents and quantity. The more nourishing and strengthening the food is, the better, and it should be taken in smaller quantities and repeated more frequently than under ordinary conditions. Of course, in a serious disease of this kind, the victim is usually, and wisely so, guided by his medical attendant, and therefore it would be useless to lay down any system of diet in general for this condition. The great thing, as I have pointed out before, is that the food should consist largely of fish, game, and meat, and strong soup; and more fluid should be taken of a harmless kind, especially in the form of a tumbler of hot water night and morning; and that steady exercise, short of fatigue, should be the rule; the body to be very warmly clothed in cold weather, for reasons previously mentioned.

Every factor that tends to improve the blood and the general condition, without encumbering the system with fat, tends to prolong the life of the victim of Bright's disease, and to make that life, while it lasts, certainly more comfortable and enjoyable. It is indeed a matter of prolonging life, and not of curing the disease, for when the tissues have undergone changes that have taken years to develop, they can never be put in a state of perfect

health again, though much may be done to improve them.

Experience teaches that perseverance on a line of diet, consisting principally of fish, game, poultry, and meat, certainly improves the blood, and with this improvement the kidneys perform their functions with greater ease, and the albumen that is excreted decreases in quantity. Medicine can do nothing for this purpose in comparison with diet and warmth. The life of the victim of Bright's disease may, under judicious management, be prolonged for years. The issue lies in the hands of the patient in carrying out instructions, more than in those of the physician who gives them.

CHAPTER XXIII.

DIABETES.

Notable effects of diet in—Excretion of sugar in—A disease of mal-nutrition—Symptoms of—Length of life in—Foods for the diabetic — Wines — Vegetables — Dietary — Breakfast, lunch, afternoon tea, dinner—Saccharin useful—General rules.

IN no other disease are the beneficial effects of a well-chosen dietary so marked as in diabetes. Indeed, this disease that, under ordinary circumstances, would destroy life in a year or two, may be prolonged indefinitely where the dietary is properly supervised. Medicine so far has given no satisfactory results in the treatment of this condition, though, from time to time, almost every drug in the pharmacopœia has had its advocates.

Diabetes, as is known to most people, consists in the passing by the kidneys, in the urine, of sugar. Many pass as much as a pound or two daily, the length of life depending in a great measure upon the excretion of this product. The more excreted, the more quickly will it be terminated. This abnormal state of nutrition depends upon the fact that the system has lost the power of properly assimilating starches and other foods that support heat, and nourish the body. The result of this state of mal-nutrition is that wasting,

often advancing to extreme emaciation, supervenes. There is an excess of sugar in the blood, and it is passed off by the kidneys, in place of being stored, and used for the purposes of nutrition.

Though the disease may creep on very gradually and unobserved, the attention of the sufferer is early attracted to the circumstance that there is persistent thirst and unusual discomfort, with an increased flow of the secretion of the kidneys, inducing the victim to get up two or three times during the night for the purpose of micturition. As the disease advances, the general health begins to give way, the thirst becomes more incessant, there is a feeling of sinking and *malaise*, and the appetite is insatiable, while food gives no relief. The skin becomes dry, the extremities cold, the bowels costive, and the body emits a faint smell, something like that of apples. After a time, from absorption of bone, the teeth loosen in their sockets. Cataract often forms in the eyes. The disease usually runs its course in three years, permanent cure being rare. Under proper dietetic management life may be prolonged for very many years.

The diabetic patient requires chosen food, from which starch and sugar are in every form eliminated, and therefore it is necessary that bread, pastry, cake, confectionary, carrots, turnips, potatoes, parsnips, beetroot, rice, sago, tapioca, and every other article that contains starch and sugar should be forbidden. It is true that there are plenty of foods open to the diabetic subject, for he may eat beef, mutton, and all kinds of fish, all kinds of poultry and game, eggs, bacon, cheese, butter, green vegetables, and fresh fruits cooked free from added sugar. Vegetables of all kinds that are free

from starch may be eaten, such as spinach, turnip-tops, lettuce, sea-kale, watercress, mustard and cress, green salads, mushrooms, and endive. Special biscuits are made for diabetics by E. Blatchley, of 167, Oxford Street, London. Those made for my purposes are of gluten, bran, and almond. These are not unpleasant to the taste, and they may be eaten to any extent.

With regard to alcohol, this must contain no sugar, and dry Moselle wine, suitable for the diabetic patient, may be procured, as previously mentioned, from Messrs. Aldous & Co., of 66, Hatton Garden. Whisky may be taken with Kalzmar table-water; claret may be indulged in, where preferred, but it is a bad wine, as it contains tannin; but sherry, port, and champagne must not be touched.

As the choice of vegetables, such as I have enumerated above, would be too monotonous, there are a few more which may be mentioned, such as cabbage, French beans, cauliflower, vegetable marrow, sea-kale, asparagus, and brocoli.

Taking the different meals, the diabetic may have, for breakfast say, tea, coffee, or cocoa, with cream, but no milk, and if tea or coffee requires sweetening, it should be sweetened with saccharin. He may have two or three gluten biscuits, ham, bacon, cold meat, preserved meats or tongue, fresh fish of any kind, with pure butter melted. Salad or watercress, if desired.

For lunch: mutton-chop, cold meat, game or chicken, lobster salad, trout, salmon, or any kind of fish, gluten biscuits, cream, cheese, any of the vegetables mentioned, with dry Moselle or whisky, and Kalzmar table-water to drink.

For afternoon tea : a cup of tea with cream, and one or two almond and gluten biscuits.

For dinner : clear soup of any kind, fish of any kind, boiled, or grilled, or fried without bread crumbs, melted pure butter ; meat of any kind, roast or boiled, plain, or sweetbread, game pigeons, pullets, or turkey ; spinach, stewed cucumber or vegetable marrow, brussels sprouts, and the vegetables already indicated ; gluten biscuits.

Where it is necessary to sweeten fluids, jellies, and so on, this should be done with saccharin, a perfectly harmless product, three hundred times sweeter than sugar. It may be procured in liquid form from Blatchley's, or in the form of tabloids from any chemist's. The best saccharin made is that of Messrs. Richardson, of Leicester, and of Messrs. Burroughs, Welcome & Co., of London. These preparations may always be depended upon.

It is needless to point out that the victim of diabetes would be always wise in having his or her dietary supervised and apportioned by some physician who thoroughly understands dietetics. In this way, and by these means, life may be prolonged to old age, and many unpleasant complications avoided. The victim should wear flannel next the skin, and take regular exercise in the open air.

The diabetic would do well to take his weight frequently, and so long as it is not decreasing, he may take it for granted that the nutrition of the body is being properly carried out.

CHAPTER XXIV.

ANÆMIA.

Poorness of blood due to mal-assimilation—Causes of, in the female
 —In the male—Symptoms of—Treatment of—Fresh air and
 exercise—Dietary for—Constipation, indigestion a cause of—
 Good blood necessary to good health.

A CONDITION due to improper assimilation of food, more frequently met with in the female than the male, and known as anæmia, is common at all ages. In the female it is often the result of tight-lacing, combined with a sedentary mode of life, and a diet containing too little animal food and too much vegetable food and sweets. It may arise in either sex from a number of other causes, such as Bright's disease, indigestion, and other ailments that tend to impoverish the blood, or from confinement in close rooms, vitiated atmosphere, insufficient food, overwork, mental worry, excess in stimulants, etc. The symptoms of anæmia, where it occurs in the young, are generally extreme paleness, feeble circulation, and breathlessness on the slightest exertion. The most important remedy in anæmia, from whatever cause it may arise, is, of course, proper diet. This should be rich, nourishing, and more especially

composed of those articles which improve the blood, and increase the tone of the nervous system.

These, naturally, are animal foods, fish, jellies, strong soups, plenty of green vegetables, and a fair amount of butter, and strict moderation in sweets of all kinds. Everything that tends to increase the tone and stamina of the constitution is beneficial in anæmia. Fresh air and exercise of all kinds, short of fatigue, early hours, and warm clothing are essential, but, as I have before remarked, the greatest remedy of all is a properly constructed dietary, and one that makes healthy blood. This should be adapted to the requirements of each particular case. The pepsine and meat cracknels previously mentioned are most useful in this ailment.

In the anæmic state, there is a deficiency of iron in the blood, and preparations of iron sometimes greatly assist in remedying the mischief when combined with proper nourishment.

The victim is often subject to troublesome constipation, and this should be remedied by a little of some natural mineral water taken occasionally in the early morning, and on no account should violent purgatives be resorted to.

The anæmic person should take stimulants sparingly, and the stimulants that are most beneficial are Moselles and very dry sherry, as these do not tend to disarrange the digestion, which in many cases is often a troublesome factor, the disease being complicated with indigestion of an irretractable kind.

It is naturally a state of the system that requires careful and proper medical guidance, but to make the cure permanent, the patient should be placed

under some system of diet suited to his or her particular constitution. In fact, a frequent form of anæmia arises from persistently indulging to excess in food that does not sufficiently nourish the nervous system, while at the same time it overloads the stomach and disarranges digestion. As the continued healthy state of the blood, and as a corollary of the nervous system depend upon proper assimilation of food, this condition results.

It may always be looked on as an indisputable fact, that where there is no absolute disease of any organ, as in the simple anæmia of young people, the cause is remediable by proper food, fresh air, and exercise. A change in diet, carefully arranged, in ailments due to mal-nutrition, has a most wonderful effect ; it acts as beneficially as a change of air ; neglected, it may lead to serious disease, and it is often the starting-point of consumption.

It is difficult to make people understand, that in certain hereditary weaknesses of constitution, pure and rich blood is absolutely necessary to continued existence, and that a vitiated, or poor state of that fluid will develop disease that would otherwise never occur. Diseases of low nutrition are like fungi. A mushroom will grow and thrive where a rose will never bloom.

CHAPTER XXV.

NERVOUS DEBILITY.

The term a misnomer—Caused by errors in nutrition—The quack's happy hunting-ground—Hypochondriasis and nervous debility—Depressing effects of—Causes of—Food suitable in—Delusions in—The religious enthusiast—Joan of Arc, Pe'er the Hermit, etc.—Overwork and worry a cause—The cure of—Change of scene in—Alcohol injurious in.

THERE are certain conditions of the system known under names that do not at all correctly express the ailments they are supposed to indicate. For instance, there is no condition more commonly mentioned in daily life than Nervous Debility. Yet really, as it is generally understood, there is no such ailment at all. It is simply a condition due to the food taken not nourishing the nervous system, and as such, as a matter of course, deranging all the different organs of the body, and inducing a form of chronic indigestion, leading to extreme nervous depression. Occasionally it may be due to the reverse process—too luxurious a mode of life and excess of food, and this may bring on errors in mal-nutrition that lead to the same result; but in many cases the victim of nervous debility inherits a hereditary nervous temperament, and this adds to the mischief, so that occasionally the sufferer becomes a confirmed hypochondriac.

There is no condition that yields the quack so large a revenue as this, for here he trades on the fears and credulity of his victim, and foreshadows all sorts of dreadful consequences when actually there is nothing to fear. The sufferer from hypochondriasis is one of the most difficult persons to treat. He exaggerates every sensation, and goes from one physician to another, of course without avail. He reads every medical book he can, examines his pulse and tongue, and cannot be persuaded that he is not suffering from serious disease. With all this the moral character does not change, and friendships remain unaltered. The hypochondriac expects every one to sympathize with him in his trouble, and for this reason he falls an easy prey to the quack who does so, and who panders to his fancies, and robs him at the same time. Such a person becomes a nuisance to himself and to every one around him; his condition to himself is pitiable in the extreme, but because of its absurdity it is often a source of amusement to others. The most prosperous man suffering from nervous debility sees nothing but the workhouse before him, and disaster in every move he makes.

Where this condition is dependent upon improper food, coupled with over-work, worry, late hours, exhaustive and enervating pleasures, irregularity of meals, excess in stimulants, and indulgences that overtax the nervous system, it is one that requires considerable care to cure. Such an origin, by lowering the nervous power and preventing food nourishing the system, augments the trouble. Still, the result of this ailment up to middle age, if properly treated, is certain recovery.

As has been previously pointed out in this work,

this condition causes the most intense nervous prostration, and such must, of necessity, be the case. The mental and bodily functions are dependent upon the stimulus of food, and if food does not nourish, the result is a condition which is known under the term indicated, or, more properly, as hypochondriasis. There may be no organic disease, but there is mental and bodily debility. If an engine is to be kept going, it must have a proper supply of coal and water, and if the fire is not kept up, the engine soon slackens its pace. If a clock is to be kept going and keep time, it must be periodically wound up; so if the tone of the nervous system is to be kept at proper tension, the body must be fed up for this purpose, and not only must it have proper food supplied to it, but that food must be properly assimilated. If it is not, the nervous system droops, and in sympathy with this every other organ of the body ceases to act in such a way as to maintain vigour, and hence the stamina of the constitution deteriorates throughout. The outcome of this state of affairs is that, as a natural sequence, the disease characterized as nervous debility, or prostration, or exhaustion, results. Any of these terms are equally applicable.

Nervous debility affects people of different temperaments in different ways, and in the case of the high-strung, the attention is entirely bestowed upon their own imaginary ailments and bodily sensations; these date, as a rule, from some deviation of the general health, though occasionally, from the first, the symptoms are quite imaginary. The victim is of healthy appearance, and may even go about his ordinary occupation, but for all this, he is always thinking about himself, and cannot be reasoned out

of his delusions. The imagination exaggerates and distorts every small symptom into something serious, and what in the same individual in a state of health, would arouse no attention, becomes in this case the source of terrible forebodings. There is a constant feeling of impending evil, and as a result, there is excessive nervous depression of spirits, inability to sleep, or to take any interest in the ordinary occupations and pleasures of life. In ancient times the hermit, the anchorite, and the religious enthusiast, were culled from the ranks that in these days furnish the hypochondriac.

The Church in former times enlisted those with a "bee in their bonnet," in its cause, and the mind became thus diverted from one dominant idea to another. The visions and delusions of such men would, in these days of science, be put down to their true cause, and be treated as cases of disordered nerve function. Joan of Arc, Peter the Hermit, Ignatius Loyola, and many others of the same type would have been relegated to a lunatic asylum.

The usual causes that lead to the state of health that induces nervous debility are overwork, worry, late hours, enervating and exhausting pleasures, irregularity in meals, excess in stimulants, and indulgences which overtax the nervous system. These by depressing the vital powers and preventing the food nourishing the nervous system bring on chronic indigestion and mal-nutrition. If this condition is treated properly, by diet, change of scene, exercise, cheerful society, and other indications that improve the nutrition of the nervous system, and the victim's attention is diverted from himself, the result, in early life and up to middle age, is certain recovery.

Early rising, and such exercises as riding and driving, as well as cheerful surroundings, for the reasons before stated, are great adjuncts. In this case the nervous system soon recovers its tone, and if proper food is taken, and it is assimilated, both mental and bodily strength returns, and health is restored.

The sufferer should undoubtedly consult some physician in whom he has confidence; for very often a few bread pills in such a case, *with faith*, will do more good than all the medicine in the pharmacopœia.

This condition, neglected, may lead in certain minds—always verging, more or less, on the borderland of insanity—to absolute insanity, and therefore it is advisable, where the nervous system seems to be out of tone, to attend to its ailments at once. Numbers of cases that are perfectly curable in the early stage, later find their way into a lunatic asylum, more particularly if complicated with worries, mental or otherwise.

In this state of the nervous system, nothing is so beneficial as change of scene. It acts as a tonic of the best description, and the depressed mental condition rebounds to its influence rapidly.

The worst remedy of all for nervous debility is to fly to the assistance of alcohol. This increases the mischief fourfold, as the reaction when the effect of the stimulant is gone is the more depressing. Nervous exhaustion is the certain reward of those who burn the candle at both ends. To live long we must live slowly, and not, in any way, abuse the pleasures of life. The abuse of these pleasures means a shorter enjoyment of them, and this, of course, is a thrice-told tale.

SLIGHT AILMENTS DUE TO IMPROPER FOOD
AND INSUFFICIENT EXERCISE.

CHAPTER XXVI.

HEADACHE.

Excess of food, troubles from—Various ailments due to—Neuralgic headache—Cause of—Congestive headache—Symptoms of—Treatment of—Diet in.

BEYOND the fact, as has been previously pointed out, that there are numerous diseases which indirectly tend to shorten life, and which may be said to be caused by improper food or the consumption of too great a quantity of food, coupled with insufficient exercise, there are many other ailments, due to the same cause, that are the source of pain, inconvenience, and trouble from day to day, and which tend considerably to prevent enjoyment of life, if they do not absolutely shorten it.

The principal of these may be said to be headache, acidity, flatulency, neuralgia, boils, eczema, psoriasis, and many other *skin* diseases too numerous to mention. Perhaps the commonest trouble in civilized life—more especially among the luxurious classes, where it is the outcome of acquired neurosis, overfeeding, and underworking—is headache.

Under the term "headache" may be classed various forms of this disorder, as neuralgic, bilious, nervous, and stomach headache. As they affect individuals of different constitutions and temperaments, they naturally take different types. The commonest, or ordinary headache, arises from the accumulation of foreign matters in the blood, which by a deleterious action on the nervous centres of the brain give rise to intolerable pain, sometimes extending over the entire head.* It is sometimes so violent, as every sufferer knows, as to entail, where the attack is severe, complete inability to attend to the duties of life.

Headache may be generally divided into, the nervous and the congestive. The first form of headache is, as a rule, due to mental fatigue and to a mode of life that is not conducive to the maintenance of health and vigour in the nervous system. In the female in early life it may arise from over-excitement, persistent late hours, tight-lacing, and other causes that lower the vital tone and impoverish the blood. It more particularly attacks those whose occupation is sedentary and intellectual, and who therefore do not by outdoor exercise keep the blood in a healthy condition by thorough oxygenation. The symptoms of nervous headache are: intolerable throbbing over the temples—sometimes extending over the head—impaired vision, chilliness, depression of spirits, with occasionally nausea, and even vomiting. A headache of this kind does not depend so much

* Dr. Lionel Beale says: "It appears to me probable that some material gradually accumulates in the blood, and by its deleterious action on the nerve cells of the brain gives rise to headache, and causes the inability to think, or at any rate renders it impossible to sustain connected thought for many minutes at a time."

upon excessive food, taken at irregular hours and under circumstances where, as a result, digestion does not take place properly, as upon food taken that does not properly nourish the nervous system. As a result, there is depression and deficient tone. To apply a simile previously used—"the pressure is off at the main."

Nervous headaches can really be permanently remedied by a bracing system of diet, more especially if it is combined with change of air and scene. It is seldom that they are amenable to drugs of any kind. All sorts have been tried with no result, for medicine, unless the food is adjusted to brace up the nervous system, in any case and under any circumstances, can only be palliative.

My experience has taught me that when the diet is constructed to improve the general health and constitutional stamina, great benefit results, in all cases depending upon deficient nervous stimulus, and I frequently find in those who come to me, in these cases for dietetic purposes, that the benefit is even permanent.

The other form of headache, commonly known as plethoric or congestive headache, depends upon overfulness of the vessels of the brain, and upon the accumulation in the system of waste, in the form of gout, fat, acids, and other products that should be eliminated by the different organs, that from engorgement, or other causes, have become too inactive, or unable to perform their functions. The too fat, and gouty, are naturally very subject to this form of headache, and the symptoms generally complained of are giddiness on stooping, flushing, noises in the ears, and fulness in the head. This form of headache is also a common symptom in

those who suffer from constipation, live too freely, take insufficient exercise, and perhaps at the same time indulge in too much alcoholic liquor in the form of wine or beer.

It goes without saying that a headache of this kind, depending as it does upon improper food and over-gorging, with insufficient exercise to work it off, is simply Nature's warning that it is time to take measures to remedy the cause, and if these warnings are not heeded, then more serious symptoms may appear in the form of an attack of apoplexy.

Congestive headaches can only be remedied by restrictions in diet, not necessarily by starving, but by apportioning the constituents of the dietary for a time to the requirements of the system. In this case, for a short period, the nitrogenous elements, *i.e.* meat, fish, game, etc., should be increased, as well as fruits, and green vegetables, and farinaceous articles of all sorts almost cut out of the daily menu. Plenty of outdoor exercise should be taken to stimulate the skin, lungs, liver, and kidneys into free action. If necessary, an occasional purgative, in the form of Franz Josef water in the morning, may be taken; but purgation, carried on to an extreme, is a fatal mode of remedying this state of affairs. Many who live too luxuriously, wisely take once a year, a trip to one of the spas abroad, and a course of mineral waters, and starvation is one of the common systems adopted to obviate the results of too luxurious a mode of life, especially where it is combined with indolence. For a time this method of action has a beneficial effect in this way, though a weakening one, and the system is cleared of its

waste, and the congestion and other troubles as a rule vanish ; but, unless the individual slightly alters his mode of life in the future, the symptoms that herald the attack return again as surely as birds to roost. In our grandfathers' time, cupping, leeching, blood-letting, and purging were the means adopted to obviate the evil results of overfeeding and indolence, and many were killed in the process.

Where those articles of diet that tend to make too much waste are avoided, the result is improvement, and the congestive symptoms vanish ; but where purgation is carried on to too great an extent, the individual simply rushes from Scylla into Charybdis, and sets up an equally disastrous state of affairs in another way.

During the visit to any health resort in England or abroad, the increased exercise, by stimulating the action of the kidneys, the liver, and other organs that carry off waste from the system, is of great importance ; and in congestive headache, if treated at home, a thoroughly good aperient, before a proper system of dieting is adopted, can do no harm, but it should not be continued, as to carry the food through the system before it has nourished it, leads to both bodily and nervous debility.

Complete relief from headache in either form can only be attained, if it is to be attained at all, by proper diet. Medicines are simply palliatives, and do not remedy the cause, the cause undoubtedly being, in the case of the nervous headache, want of those foods that nourish the nervous system,* and, in the case of the congestive headaches, of too

* "Pain," says Hilton, "is the cry of the nerve for proper nourishment."

much food altogether, more especially in the form of sugars and starches. As I have explained over and over again, many people eat, during the whole of their lives, excess of food that is of no use to them, and drink excess of those fluids that undoubtedly tend to keep the system in a constantly deranged condition, and while at the same time they do not take enough of those foods and fluids that keep it in health.

Added to this, there is no doubt that many people live in localities, and even in houses, the sanitary conditions of which are not compatible with good health. In this case the blood becomes vitiated, and hence all the organs perform their functions with want of vigour; they work with friction, like a rusty machine, the result being that substances are retained in the blood that should be excreted, and these various evils occasionally lead to ailments that people as a rule are apt to attribute to other causes. Sedentary men with anxious and harassing employments are very subject to nervous headaches, and in their case an annual holiday and a nutritious dietary are imperative, to keep the constitution in proper tone. There should be no difficulty in this, nor any deprivation, as far as even luxurious choice of food is concerned.

It is an entertaining amusement, during the summer months, watching, at one of the locks on the Thames, the Londoner trying to improve his condition. In many cases he is obese and bloated, and he works at the oars with a determination worthy of a better cause, and, if the day is warm, puffs like a grampus, while the perspiration rolls in beads off his forehead.

Having thoroughly overfatigued himself, he seeks

the friendly solace of a hostel, and eats to repletion of every fattening and indigestible viand going, washing it down with copious draughts of beer, with an occasional whisky and soda between times as a restorative !

He is surprised to find next day that he has a headache, and does not feel any better ; in fact, feels worse and more languid and depressed, and no wonder !

There are two paths leading to the end desired, and he has taken the wrong one.

CHAPTER XXVII.

ACIDITY.

Overfeeding, effects of—Skin diseases due to—Heartburn—Rheumatism—Indigestion and acidity—Stimulants, injurious in—Alkalies, palliatives only—The epicure's ailment.

ONE of the commonest of the slight but troublesome ailments due to improper or too much food and want of proper exercise is acidity, and there are very few people indeed who do not at one time or another suffer more or less from this uncomfortable state of affairs.

Acids, it may be explained, are plentifully formed in the body, independently of what is taken in the food, and it is not unusual in some constitutions for the system to be constantly burdened with acid, more particularly in the form of uric acid, or gout poison. Indeed, there are few in these days, owing to the luxurious mode of life and the carelessness of our forefathers, who do not inherit the gouty diathesis; and though it may not attack them in the form, that is so well known to every one as acute gout, it develops other equally unpleasant conditions. For instance, there are forms of catarrh, and varieties of skin diseases, such as eczema,

psoriasis, boils, due to excess of acid in the system. Heartburn, the eructation of an insipid fluid in large quantities, or of an exceedingly acid one, dyspepsia, and numerous other conditions of this nature, are due partly to inherited constitutional defects, and greatly to carelessness in the matter of food and exercise. The great channels that by their healthy and vigorous action eliminate these poisons, such as the lungs, the liver, kidneys, and the skin, are impeded in some way.

Those who inherit the uric acid diathesis are always more prone to inflammatory disease in every form, and in their case a dietary that would suit others leads to gout, rheumatism, and all sorts of ailments. These they try to combat by taking such things as carbonate of soda, potash, or of magnesia, each having his favourite remedy, whereas the only permanent remedy consists in regulated diet and plenty of exercise, the food being properly adjusted for a time in quantity and constituents to the requirements of the body.

In the case of the sedentary person, an amount of effete matter, which should be thrown off by the system by exercise, becomes stored as waste; hence the trouble indicated. In such cases, moderate exercise is the best remedy for acidity. This may be supplemented by a tumbler of hot water being sipped on getting up and on retiring to rest.

Exercise, by increasing the respiration of air and the circulation, as it does, and thereby the amount of oxygen inhaled, acts much in the same way as a bellows in blowing a fire, and assists in burning up the waste in the system which has developed in the form of acidity.

In acidity, the acid secretion that is formed in large quantities occasionally interferes with the digestion by creating an excess of this product in gastric juice.

As a rule, sufferers from acidity can take very little stimulant, and even that very little sometimes entirely upsets the system, causing severe headache, flushing of the face, and other well-known symptoms, that sufferers are familiar with.

In old age the treatment of acidity by exercise, of course, has to be modified, and the great thing is to attend to the dietary and to take all the fresh air possible ; very little farinaceous food should be taken, and such things as game, meat, eggs, strong soups, etc., form the best articles of diet. Sweet wines and malt liquors should be avoided, and where stimulants are necessary, a little good dry Moselle wine or whisky diluted with Kalzmar table-water are the best.

In acidity, articles containing too much fat, and rich dishes, and sweets, and sweet wines are provocative ; they cause butyric fermentation. The accumulation of this most unpleasant product so disagreeable to the taste, is engendered by such food and liquids. Alkalies do no good in acidity, the relief given by them being only transient ; but where acidity is complicated with constipation, an occasional dose of some aperient mineral water, such as the Franz Josef, taken an hour before breakfast, and followed by a tumbler of hot water, is beneficial. Indeed, the victim should make a practice of taking a tumbler of hot water the first thing in the morning and the last thing at night, and continue doing so throughout life.

This condition is the penalty paid by the gour-

mand and the epicure for indulgence in the pleasures of the table. Persistent attacks of it very naturally lead to serious derangements of the general health, and undoubtedly tend to bring on repeated manifestations of gout in those who inherit that diathesis, or whose mode of life has brought it about. In those who are subject to acidity, the skin is always irritable and tender, and apt to chafe between the thighs, and at the flexures of the joints, the perspiration being, in their case, invariably most irritating.

The daily bath is an important institution for such people, as the perspiration, in the hot periods of the year, leaves a deposit of the different salts on the skin, and this causes great itching and unpleasantness. The body should therefore be sponged every day and the pores of the skin kept open. A good appliance for this purpose is the Massage Rubber. This clears the skin of all scurf, and keeps it in a healthy state.

CHAPTER XXVIII.

AILMENTS INDIRECTLY DUE TO MAL-ASSIMILATION OF FOOD AND ERRORS IN THE MODE OF LIFE.

On assimilation—Scrofula or tuberculosis—Functional derangements—Hysteria—Calculi—Accidental death—Disease an accident—Fatalism—Duty and health—Our dual life—The inevitable reward.

BEYOND the ailments indicated in this work, as particularly due to errors in diet and mal-assimilation of food, there are also a number of others that might with advantage be touched on, though they do not come quite as strictly under this head as those already enumerated. It may, indeed, be pointed out that there is scarcely a condition of ill-health, short of absolute disease, that does not, more or less, depend upon the want of proper food, proper clothing, plenty of fresh air and exercise; even absolute disease can, in many cases, as has been repeatedly pointed out, be traced to this and other sources, within the control of the individual; but it would be out of place to attempt to suggest any kind of diet that could be carried out without proper surveillance.

Such derangements and diseases as rheumatism,

neuralgia, consumption, scrofula, different functional derangements of the liver, stone, nervous disturbances, such as hysteria, are all, more or less, caused by the mal-assimilation of food, and food that is not adapted to the particular requirements of the constitution. It does not require a physician to tell the ordinary individual how his particular diet is best apportioned, though, indeed, two rarely assimilate food alike, and what may be quite suitable for one, may be very unsuitable for another.

Naturally there are a certain number of people who are constitutionally strong, and who can eat everything, and who seem to go through life enjoying exceptional and long-continued health. Such fortunate individuals inherit a sound constitution and a well-balanced mind. Unfortunately, with the majority, to enjoy health means, to a certain extent, to study their particular requirements, and not to overtax the constitution by excess of any kind. We all know, or most of us know, individuals who can do any amount of brain work, from day to day, and year to year, with inexhaustible energy; but these people are exceptions to the rule. The individual who has one weak link in the chain, must only subject the chain to the strain that the weak link can bear, and therefore must guard the nervous system against exhaustion, and this can only be done by proper food, exercise, and adequate rest.

Accidents will always occur, by which human life may be terminated unexpectedly, and in a manner unforeseen; but where this occurs once, accidents to the different organs of the body that, though not immediately fatal, are fatal in a *certain*

number of years, and that are due to preventable causes, occur, and cause premature death ten times as often.

Disease and death frequently partake of the nature of an accident. One individual goes out improperly clad on a cold night, and catches a cold, that eventually terminates existence ; another falls down and sustains serious injury ; both cases are equally accidental and avoidable.

The creed of the Fatalist that the termination and the duration of life are in the hands of a Higher Power, is not a safe one, nor a desirable one ; for, really the termination of life, in nine cases out of ten, depends upon the individual taking proper care of himself. It is rank blasphemy when a person brings disease and premature death upon himself by gluttony or vice to attribute this to the will of Providence. It is the duty of every one, undoubtedly, to trust to a Higher Power ; but then, at the same time, it is his duty to take care of himself, and to endeavour to carry out certain simple rules of health that are or should be known to all. It is the creed of the coward and the sensualist to try and remove from his own shoulders to those of Nature the origin of diseases that are entirely due to his own shortcomings, and to wilfully transgressing the simple laws of hygiene. The more I treat disease by diet, the more convinced I am that in the near future the dietetic treatment of disease will be far more general and far more highly appreciated, if possible, than it is now. Medicine will always be held in high esteem, but it will take an entirely subordinate position to diet in the treatment of diseases *due to mal-nutrition*.

Observation in treating such a condition as obesity—a condition entirely due to long-continued errors in diet—teaches one, that when the daily aliment is for a time properly adjusted, those who suffer from ailments apparently having no connection with it—such as gout, neuralgia, headache, indigestion, and many other abnormal states of the system—are completely restored to robust health. Indeed, patients will often admit that their mode of life for very many years has been altogether wrong, as far as diet was concerned, and that they have deserved the consequences of their ignorance and neglect in this particular. “The proper study of mankind is man,” says Pope, and certainly as far as the laws of health, that conduce to his own well-being, are concerned, this is perfectly true.

As small circumstances make up the sum of human happiness, so small circumstances influence health and length of life. Man has, we are taught to believe, two lives, one here, and one beyond the grave. The keys of this life are, to a great extent, in his own keeping; if he elects to use them in such a way as to open the gates to the longer and better life hereafter, he will be rewarded by improved health and happiness even in this.

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